NASA Procedural Requirements

COMPLIANCE IS MANDATORY

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Subject: Aircraft Operations Management Manual

Responsible Office: Aircraft Management Division

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Appendix K. Compliance Matrix

Req #	NPR	Requirement Statement	Responsible Party	Method to Ensure Compliance
01	1.1.4	NASA controlled aircraft are subject to Federal Aviation Regulations with respect to the use of airspace, the control of air traffic, and aircraft registration. Aircraft on loan from the U.S. Armed Forces are not subject to civil registration. NASA aircraft pilots shall secure diplomatic clearance approval prior to entry into the airspace of a foreign country except for brief use of foreign airspace adjoining the United States, as directed by air traffic control (ATC).	NASA aircraft pilots	IAOP Review
02	1.1.5	NASA aircraft shall be operated in accordance with applicable provisions of the FAA Federal Aviation Regulations (14 CFR) except: a. Where this directive prescribes more stringent requirements.	Center Directors	IAOP Review

		b. Where deviations from the FAA regulations have been approved by the FAA, a Center airworthiness/flight readiness review board, or NASA policy.		
03	1.1.6	For each Center operating aircraft/UASs or procuring aircraft/UAS services, the Center Director shall maintain a program-independent Flight Operations Office, the specific purpose of which will be to plan, organize, direct, and control the operations, maintenance, modification, safety, and support of all Center-assigned or -contracted aircraft.	Center Directors	IAOP Review
04	1.1.6.1	The head of this office is responsible for all Center-assigned or -contracted aircraft. The head of this office shall be the senior line manager who is responsible for aviation activities at the Center.	Center Directors	IAOP Review
05	1.1.6.2	The Center Director shall assign the head of the Flight Operations Office the authority and responsibility, and provide the resources necessary to manage and conduct safe, effective, and efficient operations in accordance with NASA directives, guidance, and other applicable Federal regulations.	Center Directors	IAOP Review
06	1.1.6.3	Prior to contract award, the head of the Flight Operations Office shall review and concur upon any Center contract or agreement that includes aviation operations.	Center's Chief of Flight Operations	IAOP Review
07	1.1.6.4	If a Center does not have a Flight Operations Department, the Center Director shall have another Center's Flight Operations Department review and concur on such contracts or agreements for them each time the Center procures aviation services.	Center Director	IAOP Review

08	1.2.1	The Assistant Administrator for the Office of Strategic Infrastructure shall designate aircraft classifications and assign aircraft to the appropriate Center after consultation with the affected Mission Directorates and Center Directors.	Assistant Administrator for the Office of Strategic Infrastructure	Flight Operations Performance Measurements and Reporting
09	1.2.1.1	Records created throughout flight operations management shall be maintained, managed, and disposed of by each Center's Flight Operations Office or designated office in accordance with NPR 1441.1, NASA Records Retention Schedules.	Center's Chief of Flight Operations	IAOP Review
10	1.2.2.1	Mission Directorate Associate Administrators shall coordinate early with the Office of Strategic Infrastructure to establish program or project plans involving the requirement for acquisition or use of aircraft, including UASs.	Mission Directorate Associate Administrators	Flight Operations Performance Measurements and Reporting
11	1.2.2.2	Mission Directorate Associate Administrators shall comply with OMB Circulars A-76 and A-126 as they apply to the acquisition of aircraft/UASs and coordinate related documentation requirements with the Assistant Administrator for the Office of Strategic Infrastructure.	Mission Directorate Associate Administrators	Flight Operations Performance Measurements and Reporting
12	1.2.2.3	Mission Directorate Associate Administrators shall annually review aircraft mission and program requirements, use, and associated costs, and project those requirements and costs over 5 years in an annual report to the HQ AD not later than September 30 of each year.	Mission Directorate Associate Administrators	Flight Operations Performance Measurements and Reporting
13	1.2.2.4	Mission Directorate Associate Administrators shall submit OMB Circular A-11, Exhibit 300, for aircraft and aircraft programs funded by their Directorate. These submissions shall be coordinated with the Office of Strategic	Mission Directorate Associate Administrators	Flight Operations Performance Measurements and Reporting

		Infrastructure and the Office of the Chief Financial Officer.		
14	1.2.3.a	Center Directors shall be responsible for the airworthiness and flight safety of assigned aircraft, including UASs.	Center Directors	IAOP Review
15	1.2.3.b	Center Directors shall be responsible for coordination with the Office of Strategic Infrastructure in establishing program or project plans involving the requirement, assignment, and operation of aircraft/UASs.	Center Directors	IAOP Review
16	1.2.3.c	Center Directors shall be responsible for annually reviewing aircraft mission and program requirements (for those programs controlled/funded by their respective Center), use, and associated costs, and projecting those requirements and costs over 5 years in an annual report to the HQ AD, not later than September 30 of each year.	Center Directors	IAOP Review
17	1.2.3.d	Center Directors shall be responsible for ensuring compliance with the Financial Management Requirements in the appropriate use and application of function codes that are used to account for, track, and report aircraft costs.	Center Directors	IAOP Review
18	1.2.3.e	Center Directors shall be responsible for quarterly reporting of aircraft operations and costs to Headquarters, as stipulated in Chapter 11, and specific passenger transportation reporting requirements detailed in chapter 4 of this NPR.	Center Directors	IAOP Review
19	1.2.3.f	Center Directors shall be responsible for ensuring compliance with 41 C.F.R. §102-33, 41 C.F.R. § 300/301, and OMB Circular A-126, Improving the Management and Use of Government Aircraft.	Center Directors	IAOP Review

20	1.2.3.g	Center Directors shall be responsible for the budget for personnel and travel in support of the IAOP.	Center Directors	IAOP Review
21	1.2.3.h	Center Directors shall be responsible for approving aircraft charters or leases for periods of 30 days or less with 7 days prior notice to the HQ AD in the Office of Strategic Infrastructure.	Center Directors	IAOP Review
22	1.2.3.i	Center Directors shall be responsible for the technical assessment, cost evaluation, acquisition, use, and disposition of all aircraft/UASs under their control. This includes acquisition of aircraft/UASs used solely as wind tunnels or other nonflyable test models.	Center Directors	IAOP Review
23	1.2.3.j	Center Directors shall be responsible for coordinating and submitting all aircraft acquisition and disposition proposals to the Assistant Administrator for the Office of Strategic Infrastructure for approval.	Center Directors	IAOP Review
24	1.2.3.k	Center Directors shall be responsible for reporting all acquisition and disposal actions to the HQ AD to comply with Federal aircraft data-reporting requirements.	Center Directors	IAOP Review
25	1.2.3.l	Center Directors shall be responsible for ensuring that Center managers who acquire aircraft/UAS or aviation services coordinate those acquisitions with the Center's Flight Operations Department to ensure compliance with the NASA's Aviation Safety Program and aircraft management policies.	Center Directors	IAOP Review
26	1.2.4.a	Program/project managers shall coordinate early with the Office of Strategic Infrastructure to establish program or project plans involving the requirement for acquisition or	Program/project managers	Flight Operations Performance Measurements and Reporting

		use of aircraft, including UASs.		
27	1.2.4.b	Program/project managers shall prepare a Business Case Analysis (BCA) in accordance with OMB Circulars A-11, A-76, and A-126 prior to the acquisition of aircraft/UASs and gain approval of the BCA by the cognizant Mission Directorate's Associate Administrator and the Assistant Administrator for the Office of Strategic Infrastructure.	Program/project managers	Flight Operations Performance Measurements and Reporting
28	1.2.4.c	Program/project managers shall annually review aircraft mission and program requirements, use, and associated costs and project those requirements and costs over 5 years to support the Mission Directorate's annual report to the HQ AD, not later than September 30 of each year.	Program/project managers	Flight Operations Performance Measurements and Reporting
29	1.2.4.d	Program/project managers shall submit OMB Circular A-11, Exhibit 300, as appropriate, for aircraft and aircraft programs funded by their Directorates. These submissions shall be coordinated with the appropriate Mission Directorate, the Office of Strategic Infrastructure, and the Office of the Chief Financial Officer.	Program/project managers	Flight Operations Performance Measurements and Reporting
30	1.2.5.1a	The Center's Chief of Flight Operations shall have a minimum of 10 years of relevant aviation-related experience, supervisory, or managerial experience in aircraft operations similar to the primary aircraft type operated at the Center, and a high level of familiarity with the organization's aircraft operations.	Center's Chief of Flight Operations	IAOP Review
31	1.2.5.1b	The Center's Chief of Flight Operations shall have current or previously held qualifications as a NASA PIC, a military rating as an Aircraft Commander, or a Federal Aviation Administration Airline Transport Pilot certificate.	Center's Chief of Flight Operations	IAOP Review

32	1.2.5.3a	The Center's Chief of Flight Operations shall ensure the effective management of flight operations under that Center's cognizance, per NPD 7900.4, NASA Aircraft Operations Management.	Center's Chief of Flight Operations	IAOP Review
33	1.2.5.3b	The Center's Chief of Flight Operations shall authorize personnel to operate and maintain aircraft under NASA control.	Center's Chief of Flight Operations	IAOP Review
34	1.2.5.3c	The Center's Chief of Flight Operations shall determine the number of aircraft types in which an individual crewmember may maintain qualification at any given time and annually review that determination.	Center's Chief of Flight Operations	IAOP Review
35	1.2.5.3d	The Center's Chief of Flight Operations shall recommend assignment of the Center Aviation Safety Officer, with the concurrence of the Center Chief of Safety and Mission Assurance, to the Center Director for approval.	Center's Chief of Flight Operations	IAOP Review
36	1.2.5.3e	The Center's Chief of Flight Operations shall fly as a crewmember or observer on all assigned aircraft, where practicable and as necessary, to observe performance of assigned flightcrews.	Center's Chief of Flight Operations	IAOP Review
37	1.2.6.1	The ASO shall manage the Center's aviation safety program as described in Chapter 6 of this NPR.	Aviation Safety Officer	IAOP Review
38	1.2.6.2	The ASO shall be a civil servant assigned to the Flight Operations Department, serve as the Center's focal point for aviation safety, and act on behalf of the Center Director when discharging this responsibility.	Aviation Safety Officer	IAOP Review
39	1.2.7.1a	To qualify for assignment, the Chief Pilot shall hold and maintain qualification as a NASA PIC.	Chief Pilot	IAOP Review

40	1.2.7.1b	To qualify for assignment, the Chief Pilot shall have at least 3 years experience within the past 6 years as PIC of an aircraft similar in category and class to at least one of the aircraft used in the types of operations being conducted at the Center.	Chief Pilot	IAOP Review
41	1.2.7.1c	To qualify for assignment, the Chief Pilot shall demonstrate satisfactory supervisory and managerial capabilities.	Chief Pilot	IAOP Review
42	1.2.8	Chief of Maintenance shall be assigned to the Flight Operations Department and serve as the Chief of Flight Operations' focal point for all aircraft maintenance activities.	Center Director	IAOP Review
43	1.2.8.1a	To qualify for assignment, the Chief of Maintenance shall have had at least 3 years of experience within the past 6 years in aircraft maintenance in a similar-size operation maintaining aircraft similar to those used by the Center, with management experience such as supervisor or lead in aircraft maintenance.	Chief of Maintenance	IAOP Review
44	1.2.8.1b	To qualify for assignment, the Chief of Maintenance shall have held an FAA Airframe and Power Plant Certification, have held an equivalent military designation, or demonstrate an equivalent level of qualifications and expertise.	Chief of Maintenance	IAOP Review
45	1.2.9.1a	To qualify for assignment, the Chief of Quality Assurance shall hold a current FAA Inspection Authorization Certificate or have held an equivalent military designation, or demonstrate an equivalent level of qualifications and expertise.	Chief of Quality Assurance	IAOP Review
46	1.2.9.1b	To qualify for assignment, the Chief of Quality Assurance shall maintain a level of inspection expertise and activity needed to meet FAA Inspection Authorization	Chief of Quality Assurance	IAOP Review

		Certificate renewal requirements or the military equivalent.		
47	1.2.9.1c	To qualify for assignment, the Chief of Quality Assurance shall have had at least 3 years of maintenance experience within the last 6 years, 1 year of which will have been as a maintenance inspector.	Chief of Quality Assurance	IAOP Review
48	1.2.9.1d	To qualify for assignment, the Chief of Quality Assurance shall have at least 1 year of experience in a supervisory capacity.	Chief of Quality Assurance	IAOP Review
49	1.2.10.a	The IAOP shall advise the Assistant Administrator for the Office of Strategic Infrastructure regarding operational, management, and safety policies for NASA aircraft.	IAOP	Flight Operations Performance Measurements and Reporting
50	1.2.10.b	The IAOP shall conduct periodic meetings with the HQ AD to review policies and procedures related to aircraft/UAS operational matters affecting all Centers and to make recommendations to the AD regarding policies, procedures, and guidelines that may be applicable to all Centers.	IAOP	Flight Operations Performance Measurements and Reporting
51	1.2.10.c	The IAOP shall conduct reviews of a special nature at the request of the Assistant Administrator for the Office of Strategic Infrastructure and periodic reviews of all aspects of flight operations at NASA Centers, including compliance with applicable Federal regulations and Headquarters and Center policies and procedures.	IAOP	Flight Operations Performance Measurements and Reporting
52	1.2.11.a	The HQ AD shall coordinate the formulation of Agency-wide policies, procedures, and guidelines concerning aircraft/UAS operation and ensure their effective and efficient communication to Centers and appropriate Headquarters Offices.	HQ AD	Flight Operations Performance Measurements and Reporting

53	1.2.11.b	The HQ AD shall advise and assist the Assistant Administrator for the Office of Strategic Infrastructure, Mission Directorates, and Center Directors concerning the acquisition/disposition process.	HQ AD	Flight Operations Performance Measurements and Reporting
54	1.2.11.c	The HQ AD shall advise the Assistant Administrator for the Office of Strategic Infrastructure regarding the establishment of policy for the use of NASA aircraft/UASs.	HQ AD	Flight Operations Performance Measurements and Reporting
55	1.2.11.d	The HQ AD shall coordinate the findings and recommendations of IAOP reviews, dealing with institutional management issues, with the appropriate institutional Associate Administrator.	HQ AD	Flight Operations Performance Measurements and Reporting
56	1.2.11.e	The HQ AD shall maintain liaison with other Government agencies and the private sector on matters pertaining to flight operations, maintenance, and management practices common to all Centers.	HQ AD	Flight Operations Performance Measurements and Reporting
57	1.2.11.f	The HQ AD shall provide coordination and other assistance in the assignment of IAOP teams as they review and evaluate the adequacy of Center organizations, facilities, and procedures for flight operations.	HQ AD	Flight Operations Performance Measurements and Reporting
58	1.2.11.g	The HQ AD shall provide inter-Center and interagency coordination for logistics support to Centers, as necessary.	HQ AD	Flight Operations Performance Measurements and Reporting
59	1.2.11.h	The HQ AD shall collect, collate, and report Agency aircraft data (e.g., FAIRS data) to other Federal agencies.	HQ AD	Flight Operations Performance Measurements and Reporting
60	1.2.12	The Chief, Safety and Mission Assurance shall provide leadership, policy direction, functional oversight, assessment, standards, and coordination for safety and mission assurance	Chief, Safety and Mission Assurance	Flight Operations Performance Measurements and Reporting

		affecting NASA aviation operations.		
61	1.4.1	All flight crews conducting international, RVSM, MNPS, RNAV or RNP shall complete (as appropriate to the operation) airspace operations training and be authorized to operate in such airspace in accordance with FAA regulations (14 C.F.R.).	Flight Crews	IAOP Review
62	1.4.2	While conducting operations in foreign countries or international airspace, all NASA flights will be conducted as State aircraft under a diplomatic clearance. Center Flight Operations shall utilize DoD 4500.54-M (DoD Foreign Clearance Guide) and DoD Flight Information Publications for proper international operations coordination.	Center's Chief of Flight Operations	IAOP Review
63	1.4.3	The Center Director shall be responsible for identifying and complying with all national and local environmental laws and requirements for the proper handling and disposal of international garbage on NASA aircraft.	Center Directors	IAOP Review
64	1.5.1	Each NASA aircraft shall be operated in accordance with an aircraft manual providing standard operating procedures.	Center's Chief of Flight Operations	IAOP Review
65	1.5.1	Aircraft manuals (or checklist) shall be accessed electronically or carried onboard all NASA aircraft.	Center's Chief of Flight Operations	IAOP Review
66	1.5.1	For UASs, aircraft manuals shall be immediately accessible to the pilots.	Center's Chief of Flight Operations	IAOP Review
67	1.5.2	All NASA Flight Operations flight planning libraries shall have available the necessary flight information publications for U.S. and international operations.	Center's Chief of Flight Operations	IAOP Review

68	1.5.3	Each Center shall have a program for their aircrews to maintain a level of proficiency that will ensure their ability to safely operate an aircraft within governing regulations to include abnormal and emergency situations.	Center's Chief of Flight Operations	IAOP Review
69	1.5.4	Each Center shall establish and maintain a training program using check flights to assess its adequacy and ensure that a person is competent to perform their assigned duties.	Center's Chief of Flight Operations	
70	1.6.1	When deviations from this NPR are necessary, Center Directors or Associate Administrators shall submit requests for waivers to the Assistant Administrator for the Office of Strategic Infrastructure via HQ AD.	Center Directors or Associate Administrators	IAOP Review
71	1.6.1.1	Prior written approval from the Assistant Administrator for the Office of Strategic Infrastructure shall be obtained before implementing procedures that are less restrictive than those contained in this NPR.	Center Directors or Associate Administrators	IAOP Review
72	1.6.4	The waiver approval authority shall approve waivers only for a specific event, period, or duration and specify the boundaries of the requirement being waived.	Waiver Approval Authority	IAOP Review
73	1.6.5	The waiver approval authority shall notify all who have current waivers against this NPR when this NPR is updated and request verification of continued validity.	Waiver Approval Authority	IAOP Review
74	1.6.6	NASA officials who request waivers shall document the following in the request for waiver: a.) Identification of the directive and specific requirement(s) for which the waiver is requested; b.) scope (e.g., site, facility, operation, or activity) and duration of the waiver request; c.) justification for the waiver, including: (1)	NASA officials who request waivers	IAOP Review

		purpose/rationale for requesting the waiver; (2) whether application of the requirement in the particular circumstances would conflict with another requirement; (3) whether application of the requirement in the particular circumstances would not achieve, or is not necessary to achieve, the underlying purpose of the requirement; (4) any other pertinent data or information related to the waiver request (e.g., cost or schedule considerations); (5) identification and justification of the acceptance of any additional risk that will be incurred if the waiver is granted; (6) a description of any special circumstances that warrant granting the waiver, including whether: (a) Application of the requirement in the particular circumstances would not be justified by any safety and health reason; (b) the waiver would result in a health and safety improvement that compensates for any detriment that would result from granting the waiver; or (c) there exists any other material circumstances that were not considered when the requirement was adopted, for which it is in the public interest to grant a waiver; (7) a description of any alternative or mitigating action that will be taken to ensure adequate safety and health and protection of the public, the workers, and the environment for the period the waiver will be effective.		
75	2.2.1	NASA aircraft shall be operated in an airworthy condition as certified by a formal NASA airworthiness review board, under the authority of a NASA Center Director, using a NASA Certificate of Airworthiness process.	Center Directors	IAOP Review

76	2.2.1.1	All NASA aircraft shall possess and maintain a NASA Certificate of Airworthiness (Appendix F) approved by the Center Director.	Center Directors	IAOP Review
77	2.2.1.1	For all NASA aircraft other than NASA-owned aircraft, the certificate shall state the duration of applicability, as well as any limitations of that certificate.	Center Directors	IAOP Review
78	2.2.1.2	All aircraft used for passenger transportation purposes shall possess a "Normal" or "Transport" category FAA Certificate of Airworthiness.	Center Directors	IAOP Review
79	2.2.1.3	When NASA aircraft are transferred between Centers, a new NASA Certificate of Airworthiness, approved by the receiving Center Director, shall be obtained prior to commencing flight.	Center Directors	IAOP Review
80	2.2.2	Airworthiness, flight safety, and mission readiness reviews, including configuration control, shall be conducted for all aircraft modifications, with the exception of those noted in paragraph 2.4.2.4 that are cleared through an airworthiness review process or configuration control process.	Center Directors	IAOP Review
81	2.2.3	Each Center shall clearly identify the appropriate airworthiness review process for experimental, research, and operational configurations and nonstandard ground or flight operations for all aircraft operated by the Center.	Center Directors	IAOP Review
82	2.3.2	Center Directors shall establish airworthiness, flight safety, mission readiness, and configuration control review processes and procedures to identify any hazards, to manage the risks associated with flight programs, to ensure safe flight operations, to manage and thoroughly document aircraft configurations, and to ensure that flight objectives satisfy	Center Directors	IAOP Review

		programmatic requirements.		
83	2.3.2	Center Directors shall ensure that these review processes and procedures are incorporated into the contracts of those who operate and maintain NASA aircraft.	Center Directors	IAOP Review
84	2.4.1	Center Directors shall establish procedures to ensure that airworthiness and safety reviews are conducted for flight operations or missions.	Center Directors	IAOP Review
85	2.4.1.1	Reviews shall ensure that hazards associated with aircraft experimental modifications, research, or unique internal or external payloads and nonstandard operations are identified and that risks are adequately managed to enhance the likelihood of mission and program success for all aircraft missions or operations and to minimize the risks to persons or property.	Center Directors	IAOP Review
86	2.4.1.2	Program managers shall review flight programs early in the development cycle to identify the need and schedule for additional safety-related resources, procedures, or reviews.	Program managers	IAOP Review
87	2.4.1.3	Managers shall ensure that aircraft modifications are accomplished with sufficient time for engineers and technicians to safely complete required tasks.	Program managers	IAOP Review
88	2.4.1.4	Center Directors shall establish configuration control procedures to ensure that the configuration of each NASA aircraft is fully documented and reviewed.	Center Directors	IAOP Review
89	2.4.1.5	Center Directors shall establish a minimum equipment list for all non-test-related equipment for all aircraft operations.	Center Directors	IAOP Review

90	2.4.1.6	Test-related equipment will be handled through the flight test planning process. If test equipment remains on the aircraft for non-test-related missions, then such equipment shall be addressed in the aircraft MEL.	Center Directors	IAOP Review
91	2.5.1	Each Center Director shall ensure that the ARP is staffed with personnel possessing the appropriate scientific, engineering, operational, maintenance, and managerial expertise, including at least one NASA pilot and the ASO.	Center Directors	IAOP Review
92	2.5.2	Any cockpit or cabin modifications that might interfere with aircrew egress shall be reviewed by a subpanel, including aircrew and life support personnel.	Center Directors	IAOP Review
93	2.5.4	The ARP shall be continual throughout the course of a project.	Center Directors	IAOP Review
94	2.5.5	Each Center shall establish the content of the ARP based on the aircraft mission, complexity of the modifications, and the inherent hazards associated with the operation.	Center Directors	IAOP Review
95	2.5.5.1	Content for ARP approvals shall be documented in Center-level ARP procedures.	Center Directors	IAOP Review
96	2.5.5.1b	The results of tests conducted to verify the engineering analyses also shall be considered in ARP approvals.	Center Directors	IAOP Review
97	2.5.5.1c	Actions to be taken in the event of in-flight malfunctions or emergency conditions associated with the aircraft modifications or nonstandard operations also shall be described in ARP approvals.	Center Directors	IAOP Review
98	2.5.6	The final ARP approval shall contain a description of the configuration of the aircraft, operating instructions and procedures, operating limitations and restrictions, and specific	Center Directors	IAOP Review

		maneuvers or operations for which the aircraft is cleared.		
99	2.6.1	All maintenance and inspections shall be performed in accordance with Chapter 2 and the applicable manufacturers' manuals, as appropriate.	Center's Chief of Flight Operations	IAOP Review
100	2.6.2	NASA aircraft shall be maintained in accordance with an established and documented Center maintenance program, using standards of quality in workmanship, materials, and support equipment that will ensure airworthiness of aircraft for safety of flight.	Center's Chief of Flight Operations	IAOP Review
101	2.6.2	All NASA aircraft shall be maintained in a condition for safe operation and meet their respective type designs or properly altered condition.	Center's Chief of Flight Operations	IAOP Review
102	2.6.2	A maintenance program shall meet FAA regulations for any passenger seating capacity for an aircraft that is used for passenger transportation.	Center's Chief of Flight Operations	IAOP Review
103	2.6.3.1	Center Flight Operations shall maintain continuous onsite oversight of vendors and facilities performing aircraft depot-level overhauls or major aircraft modifications to ensure quality of workmanship, adherence to NASA standards, schedule, and cost control.	Center's Chief of Flight Operations	IAOP Review
104	2.6.3.2	Individuals assigned onsite responsibilities shall have expertise and experience in aircraft airworthiness standards and requirements.	Center's Chief of Flight Operations	IAOP Review
105	2.6.3.3a	For maintenance performed outside of NASA, the Chief of Maintenance shall ensure that the person(s) performing the maintenance, preventive maintenance, or alteration is properly certificated and qualified	Center's Chief of Maintenance	IAOP Review

		to perform the assigned function.		
106	2.6.3.3b	For maintenance performed outside of NASA, the Chief of Maintenance shall ensure that the work performed is done in accordance with the NASA-approved continuous airworthiness program and/or FARs.	Center's Chief of Maintenance	IAOP Review
107	2.6.3.3c	For maintenance performed outside of NASA, the Chief of Maintenance shall ensure that a record is made in the aircraft log book of the description of work performed, the date, certificate number, and type of certificate held by the person performing the work.	Center's Chief of Maintenance	IAOP Review
108	2.6.5	Each Center shall develop written maintenance procedures and practices in a Center maintenance manual that supports the aircraft-specific (manufacturer, NASA, or DoD) maintenance programs.	Center's Chief of Maintenance	IAOP Review
109	2.6.5	While this maintenance program may be completed by contractor maintenance, the contractor is required to follow the Center maintenance manual whose accuracy and currency shall be the responsibility of the Chief of Maintenance.	Center's Chief of Maintenance	IAOP Review
110	2.6.5.1a	The maintenance plan detailed in the Center maintenance manual shall include a description of how aircraft log books and associated records for assigned aircraft and components are maintained.	Center's Chief of Maintenance	IAOP Review
111	2.6.5.1a (1)	Persons signing entries in the aircraft logbook, and/or entries on Serviceable Parts Tags shall be authorized in accordance with the NASA requirements and applicable FARs and have satisfactorily completed maintenance training or possess the equivalent current experience on the applicable-type appliance, aircraft, engine, or propeller.	Center's Chief of Maintenance	IAOP Review

112	2.6.5.1a (2)	Persons signing entries in the aircraft logbook, and/or entries on Serviceable Parts Tags, shall understand and have knowledge of FARs, and the applicable types of maintenance or overhaul manuals, and follow the applicable procedures set forth therein.	Center's Chief of Maintenance	IAOP Review
113	2.6.5.1a (3)	Persons signing entries in the aircraft logbook, and/or entries on Serviceable Parts Tags, shall meet Center-defined certification processes.	Center's Chief of Maintenance	IAOP Review
114	2.6.5.1b	The maintenance plan detailed in the Center maintenance manual shall include a documented aircraft release procedure that ensures all maintenance release authorities are designated in writing.	Center's Chief of Maintenance	IAOP Review
115	2.6.5.1b	The maintenance plan detailed in the Center maintenance manual shall include a documented aircraft release process for aircraft that are deployed away from the Center.	Center's Chief of Maintenance	IAOP Review
116	2.6.5.1b (1)	Any individual with maintenance release authority shall have at least 6 months experience in the preceding 24 months in inspecting, servicing, or maintaining an aircraft or system, in accordance with Center maintenance procedures.	Center's Chief of Maintenance	IAOP Review
117	2.6.5.1c	The maintenance plan detailed in the Center maintenance manual shall include written ground-handling procedures that may be accomplished only by qualified ground handling personnel to perform fire guard, application of external electrical power, towing, engine run, and taxi operations that documents aircraft-specific training and designates those qualified in writing.	Center's Chief of Maintenance	IAOP Review

118	2.6.5.1d	The maintenance plan detailed in the Center maintenance manual shall include a documented METCAL Program that establishes policy, responsibilities, and requirements to ensure that calibrated and tested tools/special equipment performance is compared to reference CALSTDs of known and sufficiently greater accuracy.	Center's Chief of Maintenance	IAOP Review
119	2.6.5.1e	The maintenance plan detailed in the Center maintenance manual shall include a documented foreign object damage (FOD) control program that addresses periodicity and inspection criteria and effectively reduces the risk of FOD both during maintenance and during flight operations.	Center's Chief of Maintenance	IAOP Review
120	2.6.5.1e	All flight operations personnel shall be constantly on lookout for material that could be ingested into engines, struck by propeller blades, and/or blown by the exhaust of engines or propellers, causing injury to personnel or damage to aircraft.	Center's Chief of Maintenance	IAOP Review
121	2.6.5.1e	Maintenance personnel shall be assigned to perform a general inspection of hangar and ramp areas on a weekly basis at a minimum.	Center's Chief of Maintenance	IAOP Review
122	2.6.5.1f	The maintenance plan detailed in the Center maintenance manual shall include a documented tool control program (TCP) that ensures tool inventories are accurate at specific intervals, contains a lost tool process, and prohibits aircraft from flying until all tools used on an aircraft have been accounted for.	Center's Chief of Maintenance	IAOP Review
123	2.6.5.1f	The TCP shall apply to all commercial and other Government activities performing contract maintenance, production, or other support functions on NASA aircraft.	Center's Chief of Maintenance	IAOP Review

124	2.6.5.1f	The TCP shall provide instant inventory capability.	Center's Chief of Maintenance	IAOP Review
125	2.6.5.1g	The maintenance plan detailed in the Center maintenance manual shall include a documented process to ensure all GSE used on aircraft are safe and operable.	Center's Chief of Maintenance	IAOP Review
126	2.6.5.1g	GSE shall be maintained per written requirements that document how to identify and remove equipment that is unserviceable.	Center's Chief of Maintenance	IAOP Review
127	2.6.5.1g	GSE shall be maintained and documented under an aviation maintenance system or other NASA-approved system.	Center's Chief of Maintenance	IAOP Review
128	2.6.5.1h	The maintenance plan detailed in the Center maintenance manual shall include maintenance procedures and technical standards for Aviation Survival Equipment (including life support and ejection seats) for the equipment being flown, which are an integrated function of aircraft maintenance.	Center's Chief of Maintenance	IAOP Review
129	2.6.5.1h	If the Center maintains explosive devices (propellant actuated devices (PADs)/cartidge actuated devices (CADs)), the Center maintenance manual shall document the program for personnel training and qualifications.	Center's Chief of Maintenance	IAOP Review
130	2.6.5.1.h	All tools shall be accounted for after the repack and inspection of each item, for example, parachutes and floatation equipment, since these items cannot be functionally checked prior to use.	Center's Chief of Maintenance	IAOP Review
131	2.6.5.1i	The maintenance plan detailed in the Center maintenance manual shall include a documented Confined Space Program that defines all aircraft confined spaces and ensures safety in these spaces prior to entry per NPR	Center's Chief of Maintenance	IAOP Review

		8715.3, NASA General Safety Program Requirements.		
132	2.6.5.1j	The maintenance plan detailed in the Center maintenance manual shall include a documented program that ensures aircraft maintenance complies with Center Electromagnetic Interference (EMI)/Electrostatic Discharge (ESD) programs.	Center's Chief of Maintenance	IAOP Review
133	2.6.5.1k	The maintenance plan detailed in the Center maintenance manual shall include a Fuel Surveillance Program that ensures fuel is free of contaminants prior to fuel entering any Center aircraft.	Center's Chief of Maintenance	IAOP Review
134	2.6.5.1.l	The maintenance plan detailed in the Center maintenance manual shall include a documented program that ensures aircraft maintenance is conducted in compliance with the Center Hazardous Material Program and the Protection of the Environment Act, 40 C.F.R. §§ 260 to 265, which shall include use, disposal, and both long-term and worksite storage of hazardous materials.	Center's Chief of Maintenance	IAOP Review
135	2.6.5.1m	The maintenance plan detailed in the Center maintenance manual shall include an oil analysis program per orignal equipment manufacturer (OEM) and/or DoD maintenance instructions to identify mechanical breakdown precursors that exist prior to catastrophic failure. The program shall be specific to the type of engine installed and provide trend analysis, immediate feedback, and recommended actions to the Center's Chief of Maintenance.	Center's Chief of Maintenance	IAOP Review
136	2.6.5.1n	The maintenance plan detailed in the Center maintenance manual shall include a documented Weight and Balance (W&B) Program for each aircraft in compliance with any existing Center program.	Center's Chief of Maintenance	IAOP Review

137	2.6.5.1o	The maintenance plan detailed in the Center maintenance manual shall include a configuration control process (CCP) established to determine applicability and ensure compliance with Product Improvement Publications (PIP), which are defined as airworthiness directives, technical orders, service and safety bulletins, or other pertinent requirements including those from FAA, DoD, or OEMs.	Center's Chief of Maintenance	IAOP Review
138	2.6.5.1o	The CCP shall provide a complete audit trail of decisions and design modifications.	Center's Chief of Maintenance	IAOP Review
139	2.6.5.1p	The maintenance plan detailed in the Center maintenance manual shall include an Aviation Material Management process to ensure that aircraft and aircraft parts are inventoried and property accountability records are properly documented per NPR 4100.1, NASA Materials Inventory Management Manual, and Center procedures.	Center's Chief of Maintenance	IAOP Review
140	2.6.5.1q	The maintenance plan detailed in the Center maintenance manual shall include general housekeeping to ensure aviation facilities are maintained to NASA standards for hangars, shops, and ramps.	Center Chiefs of Flight Operations	IAOP Review
141	2.6.5.1r	Explosives-laden aircraft shall be parked in designated aircraft parking areas that meet airfield criteria and afford appropriate quantity distance criteria to eliminate hazards to personnel and resources per NASA STD 8719.12, Section 5.15.13.	Center Chiefs of Flight Operations	IAOP Review
142	2.6.5.1s	The maintenance plan detailed in the Center maintenance manual shall include a documented aircraft component inspection program to determine the serviceability, authenticity, traceability, and airworthiness of parts, components, accessories, and	Center's Chief of Maintenance	IAOP Review

		assemblies by subjecting them to inspections, tests, or operational checks.		
143	2.6.5.1s (1)	Organizations providing maintenance support to the Center shall have a procurement program to prevent purchasing unapproved parts and material in type certificated products.	Center's Chief of Maintenance	IAOP Review
144	2.6.5.1s (2)	The Center-approved parts program shall include, at a minimum, methods to establish qualified suppliers who are authorized to manufacture or distribute parts they supply and criteria to identify and screen potential unapproved parts suppliers.	Center Directors	IAOP Review
145	2.6.6.1	A documented Training Program shall be defined in the Center maintenance manual that ensures that maintenance personnel and QA inspectors are trained and qualified prior to being assigned.	Center Directors	IAOP Review
146	2.6.6.1	The Training Program shall document the Center-defined recurrent and proficiency training requirements to ensure maintenance personnel and QA inspectors attend refresher training that addresses changes to aircraft systems, test equipment, or critical troubleshooting and repair techniques at least every 24 months.	Center Directors	IAOP Review
147	2.6.6.2	All maintenance personnel that are qualified to perform servicing, inspections, and functional tests shall have completed the required training program, which shall be documented in their individual training records.	Center Directors	IAOP Review
148	2.6.6.3	The Training Program shall include all Center Safety Program training requirements, including training on fire protection equipment, medical stations, and hazardous materials.	Center Directors	IAOP Review

149	2.6.6.4	Within the training program, all required support functions shall be addressed. These include computer training, logistics training, and operator training for facilities and ground support equipment such as hoists, tow tractors, and lifts.	Center Directors	IAOP Review
150	2.6.6.5	Qualification records shall be kept up to date by the Chief of Maintenance or Center Training Officer to reflect both resident and onsite training.	Center Directors	IAOP Review
151	2.6.7.1	NAMIS shall be utilized to track servicing, inspections, and METCAL compliance.	Center Directors	IAOP Review
152	2.6.7.3	The remaining NAMIS modules are optional, but NAMIS can be used to track demands (i.e., requisitions) but shall be used to track receipts and issues regardless of how or who requisitioned the item.	Center Directors	IAOP Review
153	2.6.8.1	A comprehensive aircraft maintenance QA program is critical to flight safety. Each NASA Center that is responsible for the maintenance of NASA aircraft shall ensure that QA is integrated into every aspect of aircraft maintenance and that only fully qualified personnel are assigned as QA inspectors.	Center Directors	IAOP Review
154	2.6.8.1	The Center shall operate a program to provide for analysis and surveillance of its continuous airworthiness maintenance program including work performed according to Center requirements by a non-NASA entity.	Center Directors	IAOP Review
155	2.6.8.3	Each Center shall develop a written QA plan or quality management system (QMS) that covers all aspects of maintenance, material acceptance, documentation review, maintenance instruction	Center Directors	IAOP Review

		applicability, and currency.		
156	2.6.8.3	QA shall ensure aircraft configuration and aircraft components have been properly maintained and that all requirements have been properly documented	Center Directors	IAOP Review
157	2.6.8.3	QA shall provide trend analysis and investigation of recurring discrepancies, high-failure-rate components, and high-usage materials to identify underlying causes for poor quality.	Center Directors	IAOP Review
158	2.6.8.5a	QA responsibilities shall be performed to establish qualification requirements for QA personnel and collateral duty personnel.	Center Directors	IAOP Review
159	2.6.8.5b	QA responsibilities shall be performed to provide a continuous training program in techniques and procedures pertaining to aircraft maintenance per paragraph 2.6.4 and the conduct of inspections.	Center Directors	IAOP Review
160	2.6.8.5c	QA responsibilities shall be performed to ensure that established standard procedures are observed for conducting scheduled and unscheduled inspections, ground tests, and bench check of components, including engines.	Center Directors	IAOP Review
161	2.6.8.5d	QA responsibilities shall be performed to ensure the configuration of aircraft and components is correct and all essential modifications have been incorporated.	Center Directors	IAOP Review
162	2.6.8.5e	QA responsibilities shall be performed to ensure an inspection is conducted on all equipment received for use, returned for repair, or held awaiting repair to verify satisfactory material condition, identification, packaging, preservation, and configuration; and when applicable, that shelf-life limits are not exceeded.	Center Directors	IAOP Review

163	2.6.8.5f	QA responsibilities shall be performed to ensure ensure check pilots and aircrew are briefed before post-maintenance functional check flights (FCFs) so that the purpose and objectives of the flight are clearly understood. After completion of the FCF, debrief the check pilots, aircrew, maintenance control representative, and applicable work Center representatives to determine compliance with objectives outlined on the FCF checklist and clarify discrepancies noted.	Center Directors	IAOP Review
164	2.6.8.5g	QA responsibilities shall be performed to review all incoming technical publications and directives to determine their applicability to Center-maintained aircraft.	Center Directors	IAOP Review
165	2.6.8.5h	QA responsibilities shall be performed to conduct Parts and Hardware Certification of all items procured. All incoming serviceable aircraft material, parts, or components will be placed in a secured area and inspected by a QA inspector or designee. Ensure the part or material is in good condition and conforms to specifications and standards. Ensure certification paperwork or data is correct for applicability and acceptance requirements.	Center Directors	IAOP Review
166	2.6.8.5i	QA responsibilities shall be performed to ensure personnel are trained in Government-Industry Data Exchange Program (GIDEP) and FAA Suspected Unapproved Parts (SUP) Program and coordinate all actions with Center GIDEOP office, HQ AD, and the Inspector General (IG) as appropriate.	Center Directors	IAOP Review

167	2.6.8.5j	QA responsibilities shall be performed to monitor weight and balance of all Center aircraft in accordance with Center guidelines.	Center Directors	IAOP Review
168	2.6.8.5k	QA responsibilities shall be performed to validate all work orders (excluding minor aircraft write-ups/gripes) and oversee the installation of all work orders on aircraft.	Center Directors	IAOP Review
169	2.6.8.5l	QA responsibilities shall be performed to assist the ASO in the impounding of Center aircraft involved in a mishap or when directed by ASO.	Center Directors	IAOP Review
170	2.6.8.5m	QA responsibilities shall be performed to monitor maintenance using a program to develop trend analysis of processes. This program analyzes all reports of findings and/or actions taken during aircraft and component maintenance.	Center Directors	IAOP Review
171	2.6.8.7	Surveillance or monitoring programs use product or process surveillance based on an effective audit program and an objective statistical history. Sampling and surveillance verifications shall be used independently or in combination to accomplish the verification function of all QA processes.	Center Directors	IAOP Review
172	2.6.9.2	All manuals shall be maintained in accordance with the original manufacturers' updates or revisions (or DoD updates or revisions for DoD aircraft) as modified with NASA or FAA approved data.	Center Directors	IAOP Review
173	2.6.9.2	Centers shall maintain documentation to confirm that periodic revision status audits of the technical library have been conducted.	Center Directors	

IAOP Review				
174	2.6.9.2	Exceptions to this policy, including additional changes to documents, shall be approved by the Chief of Flight Operations.	Center Directors	IAOP Review
175	3.1.1.1	Center Chiefs of Flight Operations shall establish procedures to ensure that all flights of NASA aircraft are properly approved and documented, allowing for all contingencies such as deployed aircraft and aircraft ferry approvals.	Center's Chief of Flight Operations	IAOP Review
176	3.1.1.2	Emergency lifesaving, humanitarian operations, and Homeland Security missions, as pre-approved by the Center Director, may be carried out in any NASA aircraft he/she designates; the circumstances shall be documented and reported to the Assistant Administrator for the Office of Strategic Infrastructure within 30 days of action.	Center Directors	IAOP Review
177	3.1.2.1	All NASA aircraft operations shall establish applicable stabilized approach criteria suited to their particular flight operation.	Pilot in Command	IAOP Review
178	3.1.2.2	In the absence of flight manual or aircraft directive guidance, a stabilized approach shall be established by 1,000 feet above airport elevation in instrument meteorological conditions (IMC), by 500 feet above airport elevation in visual meteorological conditions (VMC), and by 300 feet above airport elevation for a circling approach or overhead patterns.	Pilot in Command	Check Flight
179	3.1.2.3	In the event that a stabilized approach is not established by the altitudes required in paragraph 3.1.2.2, a missed approach shall be executed.	Pilot in Command	Check Flight

180	3.1.3.1	As part of the Agency's continuous risk management process, all NASA flight operations shall manage these risks in accordance with the specific provisions of this NPR and NPR 8000.4.	Center Directors	IAOP Review
181	3.1.3.2	All NASA aircraft shall be configured with FAA approved TCAS and EGPWS systems for the specific type model aircraft.	Center Directors	IAOP Review
182	3.1.3.3	As part of the Agency's continuous risk management process, all NASA flight operations shall develop a TCAS/EGPWS Risk Management Plan for all aircraft in a Center's inventory not configured with these two systems	Center Directors	IAOP Review
183	3.1.3.6	All manned NASA aircraft contracted through commercial vendors shall be configured with FAA-approved TCAS and EGPWS systems for the specific type model aircraft.	Center Directors	IAOP Review
184	3.1.4	All flight deck crew members of large or turbojet aircraft shall communicate through a boom or throat microphones below the transition level/altitude.	Flight Deck Crew Members	Check flight
185	3.2.1	The PIC of a NASA aircraft shall be a designated NASA pilot.	Pilot in Command	IAOP Review
186	3.2.3	The PIC of a NASA aircraft shall ensure the crew is briefed on the mission plan, safety procedures, and emergency information, including emergency egress.	Pilot in Command	IAOP Review
187	3.2.4	Center Chiefs of Flight Operations shall have a process to train, designate, and document individuals authorized to pilot Functional Check Flight operations.	Center Chiefs of Flight Operations	IAOP Review
188	3.2.5	All NASA PICs shall be trained on the operating rules and procedures of the FAA FAR's and the ICAO Rules of the Air when operating in international airspace.	Center Chiefs of Flight Operations	IAOP Review

189	3.2.6	The duties and responsibilities of the PIC shall be specified in Center policy in accordance with agency standards of practice.	Center Chiefs of Flight Operations	IAOP Review
190	3.2.7	The PIC of any NASA aircraft entering a foreign country shall be responsible for the custody and care of disembarking passengers and crew members from the time they leave the aircraft until they are accepted for examination for entry into a State.	Pilot in Command	IAOP Review
191	3.3.1	All flight crew currency documentation shall be recorded in the NASA standard application, NASA Aircraft Management Information System (NAMIS).	Center Chiefs of Flight Operations	IAOP Review
192	3.3.2	NASA UAS flight time shall be kept separate from NASA manned aircraft flight time by type in NAMIS.	Center Chiefs of Flight Operations	IAOP Review
193	3.3.3	Each Center shall establish a means to document that flight critical information has been passed to all flightcrew.	Center Chiefs of Flight Operations	IAOP Review
194	3.3.4	Records pertaining to NASA flight activities shall include, at a minimum, the following: a.) Approval of mission; b.) name and duty status of all on board; c.) purpose of the flight; d.) routing or flight events and takeoff /landing times.	Center's Chief of Flight Operations	IAOP Review
195	3.4.1	NASA flightcrews shall be qualified in accordance with written standards set forth in Center-developed criteria.	Center's Chief of Flight Operations	IAOP Review
196	3.4.1.1	Records of qualification and flight evaluation are required and shall be maintained in aircrew training records.	Center's Chief of Flight Operations	IAOP Review
197	3.4.1.2	A review of pilot and crew qualifications shall be made prior to flight assignment to ensure that prerequisites for the intended mission are met.	Center's Chief of Flight Operations	IAOP Review

198	3.4.1.3	The Center's Chief of Flight Operations shall designate the crewmembers for aircraft that are under the Center's purview.	Center's Chief of Flight Operations	IAOP Review
199	3.4.3.1	Center Flight Operations shall impose sufficient proficiency requirements or flight time/sortie requirements on flightcrews to meet mission needs.	Center's Chief of Flight Operations	IAOP Review
200	3.4.3.1	Private pilot time shall not be recorded in NASA information systems or utilized to meet any proficiency requirements.	Center Chiefs of Flight Operations	IAOP Review
201	3.4.3.2	Each Center shall develop a written flightcrew training plan which, at a minimum, shall meet the following requirements: a.) annual night flying requirements; b.) landings in category (fixed-wing/rotorcraft); c.) six instrument approaches under actual or simulated conditions within 6 calendar months; d.) Completing 100 hours of flight time per fiscal year in any aircraft or flight simulator approved by the Center's Chief of Flight Operations or 80 hours of flight time and 100 sorties if all flown in the same Model, Design, and Series aircraft or flight simulator.	Center's Chief of Flight Operations	IAOP Review
202	3.4.3.3	Center directives shall establish separate aircrew qualification and currency requirements for unique aircraft (e.g., project, military, experimental) in which the aircrew cannot meet the above requirements.	Center Director	IAOP Review
203	3.4.3.4	The Center's Chief of Flight Operations shall document the method to regain qualification in the flightcrew training plan and notify the Assistant Administrator for the Office of Strategic Infrastructure via HQ AD of this action in a letter from the Center Director	Center Chiefs of Flight Operations	IAOP Review

204	3.4.3.4	Center's Chief of Flight Operations shall establish re-qualification procedures for pilots not meeting any of the remaining requirements above in 3.4.3.4.	Center Chiefs of Flight Operations	
205	3.4.4	Flight proficiency shall be evaluated at least once per year by a NASA or NASA-designated pilot who is an instructor or examiner pilot in the aircraft used for the evaluation.	Center's Chief of Flight Operations	IAOP Review
206	3.4.5	Instrument flying proficiency shall be evaluated at least once per year using professional aeronautical standards such as FAA Instrument Practical Test Standards.	Center's Chief of Flight Operations	IAOP Review
207	3.4.7	Written tests shall be administered and reviewed annually by a check pilot to ensure current pilot knowledge of air traffic control procedures, aircraft systems, normal and emergency operating procedures, Agency and local instructions, and other pertinent regulations and procedures.	Check Pilot	IAOP Review
208	3.4.8	Pilot annual flight evaluations shall be reviewed by the Center's Chief of Flight Operations.	Center's Chief of Flight Operations	IAOP Review
209	3.4.9	Each Center's Chief of Flight Operations shall establish local instructions regarding training and currency requirements that must be met for a guest pilot/researcher.	Center's Chief of Flight Operations or designee	IAOP Review
210	3.4.10	The Center shall establish policies for flying media representatives.	Center Directors	IAOP Review
211	3.4.11	Flight Engineers shall possess an FAA Flight Engineer Certificate appropriate for the aircraft category or equivalent military certification.	Center's Chief of Flight Operations	IAOP Review
212	3.4.11.1	Centers shall develop alternate training programs to satisfy this requirement should the above personnel not be available.	Center Directors	IAOP Review

213	3.4.12	Qualified non-crewmembers shall be authorized by the Chief of Flight Operations to participate in flight operations to support mission requirements.	Chief of Flight Operations	IAOP Review
214	3.4.12.1	Qualified non-crewmembers shall be trained and will maintain qualification in accordance with local Center policies and procedures which shall, at a minimum, include cabin emergency and egress procedures and medical clearences.	Chief of Flight Operations	IAOP Review
215	3.5	Each primary crewmember must receive ground training as specified in section 4.13 with a refresher training every 12 months for pilots.	Center Directors	IAOP Review
216	3.6.1.1	Program managers shall conduct an MRR when multiple aircraft operations are to be conducted.	Program managers	IAOP Review
217	3.6.1.2	Prior to conducting an FRR/ORR, each individual aircraft involved in the flight or campaign shall have an approved Certificate of Airworthiness.	Center Directors	IAOP Review
218	3.6.2	The chair of the Center Airworthiness Process Program or a representative shall attend all readiness reviews.	Chair of the Center Airworthiness Process Program or a representative	IAOP Review
219	3.6.3	A supervisory Flight Operations pilot or other Flight Operations supervisory personnel shall chair and approve the FRR/ORR flight authorization.	A supervisory Flight Operations pilot or other Flight Operations supervisory personne	IAOP Review
220	3.6.4	Prior to conducting an MRR, each aircraft involved in the flight or campaign shall have an approved FRR/ORR.	Center Directors	IAOP Review

221	3.6.4.1	The program/project management of the flight/campaign event shall assign an individual who has authorization to proceed with the flight program to chair and make the MRR evaluation.	Program/project manager	IAOP Review
222	3.6.4.2	The MRR shall consider the following: a.) flight experiment and science flight requirements; b.) organizational and functional chart; c.) payload status; d.) flight operations procedures; e.) aircraft separation/coordination; f.) communication plan; g.) inter-Center/interagency communication/coordination plan; h.) ground operations procedures dealing with hazardous systems; i.) schedule timeline; j.) roles and responsibilities; k.) science coordination requirements; l.) pre-accident and/or incident notification plan; m.) liability coverage; n.) deployment; o.) logistics; p.) public affairs/outreach; q.) mission assurance.	Center Directors	IAOP Review
223	3.6.5	Centers, Component Facilities, and contractors that do not have an aircraft operations department and operate NASA aircraft/UASs shall coordinate with an alternate NASA Center aircraft operations department for FRR/ORR and MRR services and support.	Center Directors	IAOP Review
224	4.2.1.1	When operated as civil aircraft, maintenance and aircrew standards shall meet the requirements for retention of FAA airworthiness certification and operation.	Center Directors	IAOP Review
225	4.2.1.2	The Certificate of Airworthiness shall be displayed per FAR 91.203 (a) and (b), Civil Aircraft: Certifications Required.	Center's Chief of Flight Operations	IAOP Review
226	4.2.1.3	Mission management flights shall be operated and maintained in accordance with FAR parts 21, 39, 43, 61, and 91 subparts A and B.	Center's Chief of Flight Operations	IAOP Review

227	4.2.1.4	Centers shall develop policies/procedures to operate mission management flights in accordance with the procedures specified in OMB Circular A-126 and 41 C.F.R., chapter 101-36.4, as well as the provisions of this chapter.	Center Directors	IAOP Review
228	4.2.2	Mission management flights shall be conducted only in support of activities that constitute the discharge of NASA's official responsibilities and only when the aircraft is not otherwise scheduled for "Mission Required" or "Required Use" flight operations.	Center Directors	IAOP Review
229	4.2.2.1	NASA employees shall not use mission management flights if commercial airlines, charter aircraft service, or ground transportation are reasonably available to meet the mission need, unless the flight is cost justified in accordance with OMB Circular A-126 and this chapter.	Center Directors	IAOP Review
230	4.2.3	Flights that require excessive deadheading or involve long, unproductive layovers shall be avoided, absent special emergency situations.	Center Directors	IAOP Review
231	4.2.4	Whenever practicable, inter-Center airlift requirements shall be combined.	Center Directors	IAOP Review
232	4.2.5	Each passenger traveling aboard NASA mission management flights shall be a U.S. Government employee or contractor on official U.S. Government business and have either an approved NASA travel authorization in accordance with NASA directives or a travel authoriza-tion approved by another Federal agency or Congressional committee.	Center Directors	IAOP Review

233	4.2.5	Travel authorized by another Federal agency or Congressional committee also shall be approved by an Official-in-Charge of a Headquarters Office or a NASA Center Director.	Center Directors	IAOP Review
234	4.2.5.2	The names of the passengers and purpose of travel for such passengers shall be documented in the mission management flight request form.	Center's Chief of Flight Operations	IAOP Review
235	4.2.5.3	Reimbursement by nonofficial travelers shall comply with section 4.7 of this chapter.	Center Directors	IAOP Review
236	4.2.6	All passengers shall be manifested on NASA Form 1269, Flight Itinerary and Passenger Manifest.	Center's Chief of Flight Operations	IAOP Review
237	4.2.6.1	Prior to departure of any mission management flight, the PIC shall certify the accuracy of the manifest and file a copy with a responsible ground agency such as a military, civil, or NASA operations office.	Pilot In Command	IAOP Review
238	4.2.7	NASA mission management flight operations shall be conducted under the cognizance of the Assistant Administrator for the Office of Strategic Infrastructure.	Assistant Administrator for the Office of Strategic Infrastructure	Flight Operations Performance Measurements and Reporting
239	4.3.1	Required Use designation shall be controlled solely by the NASA Administrator and approved according to section 4.4.2 of this chapter.	NASA Administrator	IAOP Review
240	4.3.2	All passenger travel that can reasonably be performed using commercial airlines, charter aircraft service, or ground transportation to meet the mission need may not be designated as Mission Required. Classification of a mission management (passenger or cargo) flight as Mission Required requires approval from the Assistant Administrator for the Office of Strategic Infrastructure before the flight and shall be coordinated with the HQ AD.	Assistant Administrator for the Office of Strategic Infrastructure	IAOP Review

241	4.3.3	Travel on mission management flights that are designated as Other Official Travel shall be authorized in advance on a trip-by-trip basis as detailed in section 4.4.	Center Directors	IAOP Review
242	4.3.3	NASA employees shall not use mission management flights for Other Official Travel if commercial airline, charter aircraft service, or ground transportation is reasonably available, unless the flight is cost justified in accordance with OMB Circular A-126 and this chapter.	Center Directors	IAOP Review
243	4.3.5	Other Official Travel that is not Required Use or Mission Required, as defined in 4.3.3 above, shall be authorized only when either: a.) No commercial airline or aircraft (including charter) service is reasonably available (i.e., able to meet the traveler's departure or arrival requirements within a 24-hour period), unless extraordinary circumstances require a shorter period to effectively fulfill Agency requirements; OR b.) The actual cost of using a Government aircraft is not more than the cost of using commercial airline or aircraft (including charter service).	Center Directors	IAOP Review
244	4.3.5.1	Such cost justification shall be computed consistent with section 4.4.5.2 of this chapter.	Center Directors	IAOP Review
245	4.3.7	Use of NASA aircraft for passenger transportation purposes, regardless of travel classification category, shall follow the same requirements as used for all other mission management flights, including compliance with 41 C.F.R. 101-37 and OMB Circular A-126, flight request and approval using NASA Form 1653, cost justification on NASA Form 1653 as required, and obtaining travel authorization approvals.	Center Directors	IAOP Review

246	4.3.7.1	When operated as civil aircraft, maintenance and aircrew standards shall meet those required for retention of FAA airworthiness certification and operation and shall be followed for any NASA mission management flight that carries passengers.	Center Directors	IAOP Review
247	4.3.7.2	The Certificate of Airworthiness shall be displayed per FAR 91.203 (a) and (b).	Center Directors	IAOP Review
248	4.3.7.3	Centers shall exercise caution to ensure that aircraft are returned to their FAA-certificated configuration after being modified for Program Support or Research purposes.	Center Directors	IAOP Review
249	4.3.8	Nonofficial travel on NASA mission management flights shall be authorized only when all the following conditions are met: a.) the aircraft is already scheduled for use for an official purpose; b.) such nonofficial travel use does not require a larger aircraft than needed or alteration of flight itinerary for the official purpose; c.) nonofficial travel use results only in minor additional cost to the Government.	Center Directors	IAOP Review
250	4.3.8.1	All nonofficial travelers shall reimburse the U.S. Treasury in accordance with section 4.7.	Center Directors	IAOP Review
251	4.3.9	The Center Director shall certify, in writing, that nonofficial travel on a scheduled flight has met the above conditions.	Center Directors	IAOP Review
252	4.3.9.1	The Center shall retain this certification for a minimum of 2 years.	Center Directors	IAOP Review
253	4.4.1	All flights with passengers aboard NASA aircraft assigned to a Center shall be reviewed by the Center Chief Counsel for compliance with 41 C.F.R., part 101-37 and OMB Circular A 126, and approved in advance by the Center Director.	Center Directors	IAOP Review

254	4.4.1.1	In the case of aircraft assigned to HQ, those flights shall be reviewed by the General Counsel or Deputy General Counsel and approved in advance by the Assistant Administrator for the Office of Strategic Infrastructure.	Assistant Administrator for the Office of Strategic Infrastructure	IAOP Review
255	4.4.1.2	All flights classified as Other Official Travel that have Senior Federal Officials aboard shall be reviewed by the General Counsel and approved in advance by the appropriate NASA HQ or Center approval authority.	Center Directors	IAOP Review
256	4.4.2	Mission management flights also shall be approved in advance, in writing, and generally on a trip-by-trip basis.	Center Directors	IAOP Review
257	4.4.2.1	The Administrator shall in each instance determine the appropriateness of Required Use flights following a finding of compliance with OMB Circular A-126 requirements by the General Counsel.	NASA Administrator	IAOP Review
258	4.4.2.2	While the Administrator may make a blanket determination that all use of NASA aircraft by certain employees, or travel in specified categories, qualifies as Required Use travel, such determinations shall likewise be in writing, be determined to be compliant with OMB Circular A-126 requirements by the General Counse, and set forth the justification for that determination.	NASA Administrator	IAOP Review
259	4.4.2.3a	The Center Director shall complete the following when a member of the flightcrew also is considered a passenger: The justification shall be annotated in the remarks section of NASA Form 1653.	Center Directors	IAOP Review

260	4.4.2.3b	The Center Director shall complete the following when a member of the flightcrew also is considered a passenger: The flightcrew member shall have either a NASA travel authorization approved in accordance with NASA directives or a travel authorization approved by another Federal agency or Congressional committee for purposes or activities beyond their crew flight duties.	Center Directors	IAOP Review
261	4.4.2.3c	The Center Director shall complete the following when a member of the flightcrew also is considered a passenger: The flightcrew member shall be listed as a passenger on Form 1653.	Center's Chief of Flight Operations	IAOP Review
262	4.4.2.3d	The Center Director shall complete the following when a member of the flightcrew also is considered a passenger: If the flightcrew member is a Senior Federal Official, a family member of such Senior Federal Official, or a non-Federal traveler, the flight request shall be reviewed by the General Counsel.	Center Directors	IAOP Review
263	4.4.3	Flights classified as Mission Required where NASA personnel are traveling to meet mission requirements also shall be reviewed by the General Counsel and approved in advance by the Assistant Administrator for the Office of Strategic Infrastructure.	Assistant Admin-istrator for the Office of Strategic Infrastructure	IAOP Review
264	4.4.3	The Assistant Administrator for the Office of Strategic Infrastructure shall ascertain, prior to authorizing the flight, that the purpose of the trip is for Mission Required travel as described in section 4.3.2.	Assistant Admin-istrator for the Office of Strategic Infrastructure	IAOP Review
265	4.4.3	Should special emergency situations preclude preflight review and approval, immediate action to review and approve the flight shall be taken as soon as practicable following the flight.	Center Directors	IAOP Review

266	4.4.3.1	Flights classified as Mission Required conducted on Research or Program Support aircraft, where passengers are aboard but the primary purpose of the flight is not passenger transport, may be approved at the Center Director level with Center Counsel review. General Counsel shall review the flight in advance if a Senior Federal Official, families of such Senior Federal Officials, or non-Federal travelers are passengers.	General Counsel	IAOP Review
267	4.4.3.1	Authorization shall be coordinated with the HQ AD.	Center Directors	IAOP Review
268	4.4.3.1	A Mission Management Flight Request (NASA Form 1653) is required, and the passenger manifest (NASA Form 1269) shall clearly distinguish aircrew from passengers.	Center Directors	IAOP Review
269	4.4.3.1	The remarks section of the NASA Form 1653 shall indicate what training and for whom the flight is being conducted.	Center Directors	IAOP Review
270	4.4.4	Travel by the following categories of people must be authorized in advance and in writing when traveling aboard mission management flights on Other Official Travel: a.) Senior Federal Officials; b.) members and families of such Senior Federal Officials; c.) non-Federal travelers.	Center Directors	IAOP Review
271	4.4.4	Status of the following categories of people shall be annotated on the flight request and manifest: a.) Senior Federal Officials; b.) members and families of such Senior Federal Officials; c.) non-Federal travelers.	Center Directors	IAOP Review
272	4.4.4.2a	Authorizations for Other Official Travel flights with Senior Federal Officials, families of such Senior Federal Officials, and non-Federal travelers aboard shall be reviewed	Center Directors	IAOP Review

		in advance on a trip-by-trip basis by the Center Chief Counsel.		
273	4.4.4.2b	Authorizations for Other Official Travel flights with Senior Federal Officials, families of such Senior Federal Officials, and non-Federal travelers aboard shall be approved by the Center Director.	Center Directors	IAOP Review
274	4.4.4.2c	Authorizations for Other Official Travel flights with Senior Federal Officials, families of such Senior Federal Officials, and non-Federal travelers aboard shall be reviewed by the NASA General Counsel.	General Counsel	IAOP Review
275	4.4.4.3	At NASA HQ, all flights shall be reviewed by the General Counsel and approved in advance by the Assistant Administrator for the Office of Strategic Infrastructure.	Assistant Admin-istrator for the Office of Strategic Infrastructure	IAOP Review
276	4.4.4.4	Other Official Travel flights on Center-assigned aircraft with no Senior Federal Officials aboard shall be reviewed by the Center Chief Counsel and approved by the Center Director without HQ review.	Center Directors	IAOP Review
277	4.4.5	When a mission management flight is for Other Official Travel, the approving official shall determine that one of the following criteria has been satisfied: a.) no commercial aircraft or airline service is reasonably available in accordance with paragraph 4.3.4.1; OR b.) the actual cost of mission management flights does not exceed the cost of using commercial airlines or aircraft (including charter service). For such "cost-justified flights," the cost of using commercial airline or aircraft services for justifying the use of Government aircraft shall: (1) be the current Government contract fare or price or the lowest fare or price known to be available for the trip(s) in question; (2) include any differences in the costs of any additional ground or air	Center Directors	IAOP Review

		travel, per diem and miscellaneous travel (e.g., taxis, parking), and lost employee work time (computed at gross hourly costs to the Government, including benefits) between commercial air, charter air service, and Government aircraft. To capture the cost, including fringe benefits, of the employee's lost work time, a multiplier of 1.3285 must be applied to the locality-adjusted hourly salaries of the individual travelers for the additional travel time. The hourly salaries of the travelers are determined by dividing the applicable current average annual salaries that are provided by the NASA Workforce Web site by 2,087. Selecting the "Average Salaries by Occupation and Center (table)" view will provide access to the necessary data to determine average salaries by occupation and grade for each Center. While Federal salary data can be found at many other locations, the NASA Workforce Web site is the official NASA source. Travel time is defined as the time required to travel from the office or home until arrival at the business location or hotel, whichever is earliest.		
278	4.5.1a	The Assistant Administrator for the Office of Strategic Infrastructure shall approve policies and other matters involving NASA mission management flights (except those specifically outlined above) and ensuring that the number of NASA-owned aircraft and their capacity to carry passengers and cargo does not exceed the level necessary to meet NASA's mission requirements.	Assistant Administrator for the Office of Strategic Infrastructure	IAOP Review

279	4.5.1b	The Assistant Administrator for the Office of Strategic Infrastructure shall coordinate acquisition, assignment, or disposition of aircraft whose primary purpose is the conduct of mission management flights with the appropriate Associate Administrators and Center Directors in accordance with OMB Circular A-76.	Assistant Administrator for the Office of Strategic Infrastructure	IAOP Review
280	4.5.1c	The Assistant Administrator for the Office of Strategic Infrastructure shall annually review mission management flight requirements, use, and associated costs, including variable cost rates for each aircraft used to conduct mission management flights.	Assistant Administrator for the Office of Strategic Infrastructure	IAOP Review
281	4.5.1d	The Assistant Administrator for the Office of Strategic Infrastructure shall periodically review the need for all NASA aircraft whose primary purpose is mission management flight operations, and the cost effectiveness of NASA mission management flight operations in accordance with the requirements of OMB Circular A-76. Each such review of NASA-owned aircraft whose primary purpose is mission management flight operations shall be submitted to the General Services Administration when completed and to OMB with NASA's next budget submission.	(This is actually two requirements in one) Assistant Administrator for the Office of Strategic Infrastructure	IAOP Review
282	4.5.1e	The Assistant Administrator for the Office of Strategic Infrastructure shall ensure that current (by fiscal year) variable cost rate for each aircraft utilized to conduct mission management flights is used by all NASA officials who operate and account for NASA mission management flights to calculate the flight-by-flight cost justification required by OMB Circular A-126.	Assistant Administrator for the Office of Strategic Infrastructure	IAOP Review

283	4.5.2a	Center Directors shall ensure that aircraft are used properly and that the functions, including contract functions, performed by their aircraft comply, at a minimum, with NASA, FAA, OMB, and other Federal requirements, policies, and procedures.	Center Directors	IAOP Review
284	4.5.2b	Center Directors shall ensure compliance with 41 C.F.R., part 101-37 and OMB Circular A-126.	Center Directors	IAOP Review
285	4.5.2c	Center Directors shall approve the use of their assigned aircraft to conduct mission management flights where passenger transport is not the primary mission.	Center Directors	IAOP Review
286	4.5.2d	Center Directors shall designate aircrew to conduct mission management flights and ensure continuing compliance with all governing regulations.	Center Directors	IAOP Review
287	4.5.2e	Center Directors shall establish variable cost rates for aircraft under their control that are, or may be, used for passenger transportation. The rate will be developed using OMB Circular A-126, attachments A and B, incorporating the most recent 12 months of historical cost data available and shall be used to determine the cost justification for mission management flight requests. The rate shall be reported to the HQ AD not later than September 15 of each year and cannot be used until approved by that office.	Center Directors (three requirements)	IAOP Review
288	4.5.2f	Center Directors shall annually review and document the Center's continuing need for aircraft whose primary purpose is the transport of passengers and the cost-effectiveness of such aircraft operations, as required by OMB Circular A-126 and reflected in the NASA Financial Management Requirements and guidance from	Center Directors	IAOP Review

		the HQ AD. Content of this review must include, in narrative format, a comparison of the past years' use with future requirements. Upon completion of the annual review, a copy shall be forwarded to the HQ AD not later than October 31 of each year.		
289	4.5.2f	When Government ownership of an aircraft is no longer justified, Center Directors shall identify such aircraft to the Assistant Administrator for the Office of Strategic Infrastructure for reassignment or disposal.	Assistant Administrator for the Office of Strategic Infrastructure	IAOP Review
290	4.5.2g	Center Directors shall submit a monthly report of mission management flight data to the HQ AD to arrive not later than the 20th of the next month. This data must include all available mission management flight and request records for NASA aircraft under the control of the Center Director and must reflect every flight flown by aircraft that has been, or may be, approved to transport passengers regardless of whether the passengers were aboard that flight. At a minimum, the following are to be provided: a.) NASA Form 1653, Mission Management Flight Request; b.) NASA Form 1269, Flight Itinerary and Manifest; c.) Cost Calculation Spreadsheet; d.) NASA Aircraft Management Information System (NAMIS) Form 1672, Aircraft Log.	Center Directors	IAOP Review
291	4.5.2h	Certification documentation demonstrating compliance with paragraph 4.3.5 for any nonofficial travel use and documentation of the required reimbursement described in section 4.7 shall be included in the monthly mission management flight data submission. This responsibility may be delegated.	Center Directors	IAOP Review

292	4.5.4.2a	For subpanels, the IAOP chair shall ensure that subpanel members are Chiefs of Aircraft Operations and Chiefs of Aircraft Maintenance or their designees, as well as a representative from the HQ AD who shall act as permanent executive secretary.	IAOP Chair	IAOP Review
293	4.5.4.2b	For subpanels, the IAOP chair shall ensure that subpanels will be convened at least annually in formal meetings; however, the subpanels shall act as standing committees subject to call by the chairperson to review urgent business. Informal meetings may be conducted by teleconference.	IAOP Chair	IAOP Review
294	4.5.5.1	All crewmembers shall comply with the provisions set forth in this NPR and with FAA and OEM publications for their aircraft and other applicable directives, regulations, and instructions.	Center Directors	IAOP Review
295	4.5.6	A fully qualified pilot shall be designated as PIC and charged with the responsibility of conducting each NASA mission management flight.	Pilot in Command	IAOP Review
296	4.5.7	The pilot assigned to duty as Second in Command during flight shall be qualified as either a PIC or SIC as specified in paragraph 4.11.4.	Pilot in Command	IAOP Review
297	4.6.1.1	NASA's aircraft programs shall be included in NASA's Management Control Plan and comply with the internal control requirements of OMB Circular A-123.	Center Directors	IAOP Review
298	4.6.1.1	Any material weaknesses found shall be reported in the next annual internal control report to the President and Congress.	Center Directors	IAOP Review
299	4.6.1.4	Records of all mission management flight operations shall be retained for at least 2 years and must include, at a minimum: a.) the tail number of the plane used; b.)	Center Directors	IAOP Review

		the date(s) used; c.) the name(s) of the pilot(s) and flightcrew; d.) the purpose(s) of the flight; e.) the route(s) flown; f.) the names and status of all passengers on all legs of the mission.		
300	4.6.2a	Center Directors shall ensure monthly submission of mission management flight data to the HQ AD as required in paragraph 4.5.2.7.	Center Directors	IAOP Review
301	4.6.2b	Center Directors shall annually review and document the Center's continuing need for aircraft whose primary purpose is the transport of passengers and the cost-effectiveness of such aircraft operations, as required by OMB Circular A-126 and reflected in the NASA FMR and guidance from the HQ AD. Content of this review is to include, in narrative format, a comparison of the past years' use with future requirements. Upon completion of the annual review, a copy will be forwarded to the HQ AD not later than October 31 of each year.	Center Directors	IAOP Review
302	4.6.2c	Center Directors shall ensure the establishment of variable cost rates for each fiscal year for aircraft under their control that are, or may be, used for passenger transportation. This rate is to be used to determine cost justification for mission management flight requests and shall be reported to the HQ AD not later than September 15 of each year.	Center Directors	IAOP Review
303	4.6.2d	The variable rate will be developed per OMB Circular A-126, attachments A and B, using the most recent 12 months of historical cost data available. The Center variable rate shall be approved by HQ AD prior to being applied at the beginning of each FY.	Center Directors	IAOP Review

304	4.6.2d	If, during the FY, a Center needs to adjust the variable rate, substantiation shall be submitted and approved prior to being applied.	Center Directors	
305	4.7.1	Reimbursement for nonofficial travel use shall be made in advance of the flight for travel on FAA aircraft, consistent with current FAA procedures.	Center Directors	IAOP Review
306	4.7.2	Reimbursement for nonofficial travel use of NASA-owned or -controlled aircraft shall be made in advance of the flight.	Center Directors	IAOP Review
307	4.7.3	Any flight involving nonofficial travelers shall require notification to the HQ AD prior to the flight to ensure application of the Agency-wide procedures for reimbursement.	Center Directors	IAOP Review
308	4.8.2	NASA aircraft used to conduct mission management flights shall meet the FAA certification standards required of mission management flights.	Center Directors	IAOP Review
309	4.8.3	Airworthiness of NASA mission management flights shall, at a minimum, meet the standards set forth in the Federal Aviation Regulations for similar business-type aircraft.	Center Directors	IAOP Review
310	4.8.3	Aircraft whose primary or secondary purpose is the transport of passengers shall be maintained as required for retention of FAA airworthiness certification.	Center Directors	IAOP Review
311	4.8.4	The cost of operation and the utilization of mission management flights shall be reported in accordance with Financial Management Manual 9353-6 (RCS-10-0000-00271) and OMB Circular A-126.	Center Directors	IAOP Review

312	4.9.1	NASA-owned and -controlled aircraft, including lease and charter, whose primary purpose is to meet other mission requirements of research or program support, are public aircraft and are not authorized to carry passengers, even if the classification of the flight is Mission Required, without written approval from the Assistant Administrator for the office of StrategicInfrastructure prior to such use. Approval shall be coordinated with the HQ AD.	Center Directors	IAOP Review
313	4.9.1	The use of a NASA aircraft to provide passenger transportation shall be restricted to circumstances where such use does not conflict with program support or research operations.	Center Directors	IAOP Review
314	4.9.1.1	Centers shall document the justification for and approval of each flight used for mission management purposes and retain the documentation for 2 years.	Center Directors	IAOP Review
315	4.10.1	When deviations from this NPR are necessary, Center Directors shall submit requests for deviations or waivers to the Assistant Administrator for the Office of Strategic Infrastructure.	Center Directors	IAOP Review
316	4.11.2	A training file shall be maintained for each flightcrew member.	Center's Chief of Flight Operations	IAOP Review
317	4.11.3	Pilots of aircraft used for mission management flights shall possess a current FAA First Class Medical Certificate.	Center's Chief of Flight Operations	IAOP Review
318	4.11.3	Flight Maintenance Technicians shall possess a valid FAA Third Class Medical Certificate or NASA medical certificate issued within the past 12 months by a NASA-approved medical examiner.	Center's Chief of Flight Operations	IAOP Review

319	4.11.4	PICs/SICs shall possess an FAA Airline Transport Pilot (ATP) Certificate with appropriate category, class, and type rating in the aircraft assigned.	Center's Chief of Flight Operations	IAOP Review
320	4.11.4	To be designated an aircraft commander, the pilot shall meet the following minimum flight experience requirements: a.) 2,500 pilot hours (500 hours multiengine); b.) 100 pilot hours in type.	Center Directors	IAOP Review
321	4.11.5	Instructor pilots shall be selected by the Center's Chief of Flight Operations from highly qualified PICs who have demonstrated the skill, maturity, and temperament to perform instructor duties.	Center's Chief of Flight Operations	IAOP Review
322	4.11.7	Flight maintenance technicians shall possess an FAA A&P Certificate.	Center's Chief of Flight Operations	IAOP Review
323	4.13.1	Each primary crewmember shall receive basic survival training on a one-time basis.	Center's Chief of Flight Operations	IAOP Review
324	4.13.1	Additional survival training shall be required by appropriate Center management for those crewmembers engaged in frequent over-water or remote-area flights.	Center's Chief of Flight Operations	IAOP Review
325	4.13.1	Newly assigned personnel with no previous survival training shall complete this requirement within 12 months of being assigned to flightcrew duties.	Center's Chief of Flight Operations	IAOP Review
326	4.13.1	Pilots shall not be assigned as PIC until this requirement has been met.	Center's Chief of Flight Operations	IAOP Review
327	4.13.2	Prior to initial designation, primary crewmembers shall receive instruction in the physiological aspects of high-altitude flight including altitude chamber indoctrination or recognized equivalent training (ie Reduced Oxygen Breathing Device training).	Center's Chief of Flight Operations	IAOP Review

328	4.13.2	Refresher training academics shall be accomplished every 5 years.	Center's Chief of Flight Operations	IAOP Review
329	4.13.3	Prior to initial designation and annually thereafter, each crewmember shall receive emergency egress training on each type of aircraft assigned.	Center's Chief of Flight Operations	IAOP Review
330	4.13.3	Training shall include instruction on the location and operation of normal and emergency exits and cabin emergency equipment, such as fire extinguishers and life vests.	Center's Chief of Flight Operations	IAOP Review
331	4.13.4	Each primary crewmember shall complete an approved formal course of instruction in the type aircraft to be flown, including a study of the systems and procedures applicable to the individual's crew position.	Center's Chief of Flight Operations	IAOP Review
332	4.13.5	A formal systems training course shall be required every 6 months for pilots and every 18 months for flight maintenance technicians.	Center's Chief of Flight Operations	IAOP Review
333	4.13.6	Maintenance Technicians shall attend refresher training that addresses changes to aircraft systems, test equipment, or critical troubleshooting and repair techniques every 24 months.	Center's Chief of Flight Operations	IAOP Review
334	4.14.1	Flight training shall be conducted under the supervision of a NASA-designated flight instructor pilot or an FAA-certified flight instructor, either in an approved simulator or in an aircraft.	Center's Chief of Flight Operations	IAOP Review
335	4.14.2	Prior to initial designation, each pilot shall receive a minimum of 10 hours of flight training, 8 hours of which may be conducted in a simulator.	Center's Chief of Flight Operations	IAOP Review
336	4.14.3	In each 6-month period, pilots shall receive a minimum of 6 hours of flight or simulator training.	Center's Chief of Flight Operations	IAOP Review

337	4.14.4	Prior to initial designation, each maintenance technician shall receive training in such areas as traffic awareness and "see-and-avoid" techniques, aircraft servicing, weight and balance, and passenger care.	Center's Chief of Flight Operations	IAOP Review
338	4.15.1	Only crewmembers who have completed their required training shall be used as required crewmembers on any passenger missions.	Center's Chief of Flight Operations	IAOP Review
339	4.16.1	All flight crew currency documentation shall be recorded in the NASA standard application, NASA Aircraft Management Information System (NAMIS).	Center's Chief of Flight Operations	IAOP Review
340	4.16.2	In the interest of flight safety and to ensure that all crewmembers have the opportunity to exercise their aeronautical skills and thereby maintain the proficiency level for which they have been trained, the minimum currency requirements set forth in Table 4.2 shall be met.	Center's Chief of Flight Operations	IAOP Review
341	4.16.2.1d	Private pilot time shall not be recorded in NASA information systems or utilized to meet any of the above proficiency requirements.	Center's Chief of Flight Operations	IAOP Review
342	4.16.2.2	To maintain currency, flight maintenance technicians shall have flown at least three passenger missions each calendar quarter, or they must be accompanied by a current flight maintenance technician.	Center's Chief of Flight Operations	IAOP Review
343	4.17.1.1	A pilot at the controls who does not meet the 90-day total hour requirements, but is otherwise current, shall increase all instrument approach minimums by 200 feet and 1/2-mile visibility (or the Runway Visual Range equivalent).	Center's Chief of Flight Operations	IAOP Review

344	4.17.1.3	At the discretion of the Chief Pilot, pilots flying multiple types of aircraft who have met the all-types requirements may satisfy the in-type currency requirement by flying a training flight with a flight instructor. This training flight shall include a minimum of two instrument approaches, three takeoffs, and three landings.	Center's Chief of Flight Operations	IAOP Review
345	4.17.1.5	Lapse in qualification greater than 90 days requires retraining of at least 6 hours dedicated flight or simulator training as determined by the Center's Chief of Flight Operations and requires a formal flight evaluation by an instructor pilot.	Center's Chief of Flight Operations	IAOP Review
346	4.18.1	The intent of the NASA flightcrew evaluation program is to objectively evaluate aircrew performance and, thereby, measure the effectiveness of the training program. Designated Instructor Pilots shall administer all flight checks.	Center's Chief of Flight Operations	IAOP Review
347	4.18.1	An IP shall be designated for all flights in which instruction or evaluation is planned.	Center's Chief of Flight Operations	IAOP Review
348	4.18.2	Prior to being designated in their crew position, and annually thereafter, pilots shall complete a proficiency evaluation flight conducted by a NASA-designated IP or an FAA-designated flight IP.	Center's Chief of Flight Operations	IAOP Review
349	4.18.2	Pilots with overdue proficiency checks shall be scheduled only on training flights (i.e., non-passenger flights) with an instructor pilot.	Center's Chief of Flight Operations	IAOP Review
350	4.18.3	Prior to being designated an aircraft commander and annually thereafter, pilots shall complete a line evaluation flight conducted by an IP.	Center's Chief of Flight Operations	IAOP Review
351	4.18.3	Pilots with overdue line checks shall not be scheduled as a PIC until a check is completed.	Center's Chief of Flight Operations	IAOP Review

352	4.18.4	Flight checks conducted by NASA IPs shall be recorded on NASA Form 1615 or Center equivalent, reviewed by the Center's Chief of Flight Operations, and filed in the individual's training file.	Center's Chief of Flight Operations	IAOP Review
353	4.19.1a	In addition to approving the use of mission management flights, the Assistant Administrator for the Office of Strategic Infrastructure and the Center Directors shall ensure that the most cost-effective aircraft is used to satisfy approved requirements. Exceptions to this usage shall be documented in writing.	Center Directors	IAOP Review
354	4.19.1b	In addition to approving the use of mission management flights, the Assistant Administrator for the Office of Strategic Infrastructure and the Center Directors shall coordinate trip itineraries and requirements with other NASA activities that could benefit from the use of available seats on each trip.	Center Directors	IAOP Review
355	4.20.1	All personnel scheduled as primary flight crewmembers on NASA mission management flights shall be trained and qualified in accordance with this paragraph of this NPR.	Center's Chief of Flight Operations	IAOP Review
356	4.20.1	Crew assignment, including identification of PIC, shall be designated in writing for each flight.	Center's Chief of Flight Operations	IAOP Review
357	4.20.2	No aircraft carrying passengers shall be operated with less than the minimum basic crew specified below.	Center's Chief of Flight Operations	IAOP Review
358	4.21.2	Basic crew duty time shall not be scheduled to exceed 14 consecutive hours except as set forth below.	Center's Chief of Flight Operations	IAOP Review
359	4.21.2.2	Augmented crew duty time shall not be scheduled to exceed 18 consecutive hours.	Center's Chief of Flight Operations	IAOP Review

360	4.21.2.2	Flights requiring augmentation shall be approved by the Center's Chief of Flight Operations and documented and maintained on file for a period of 12 months.	Center's Chief of Flight Operations	IAOP Review
361	4.21.2.3	Relief crews shall be pre-positioned if the mission schedule cannot be supported within the duty time limitations specified for a single or augmented crew.	Center's Chief of Flight Operations	IAOP Review
362	4.22.2.1	Crew rest shall normally provide at least 10 consecutive hours free of all official duties.	Center's Chief of Flight Operations	IAOP Review
363	4.22.2.2	At en route stops, crew rest shall not commence until 1 hour after termination of the mission in order to allow for necessary post-flight duties.	Center's Chief of Flight Operations	IAOP Review
364	4.22.2.3	The crew rest period shall end 1 hour prior to the crew beginning official duties in preparation for departure, normally at least 1 hour prior to scheduled takeoff time.	Center's Chief of Flight Operations	IAOP Review
365	4.22.2.4	Approvals for reduced crew rest shall be limited to one occurrence per crewmember during any 7-day period.	Center's Chief of Flight Operations	IAOP Review
366	4.22.2.4	Such approvals shall be documented and maintained on file for a period of 12 months.	Center's Chief of Flight Operations	IAOP Review
367	4.23.1	Flightcrew members shall not be scheduled, nor permitted, to function as members of mission management flightcrews, if their total professional flying time exceeds the flight hours shown in table 4-3.	Center's Chief of Flight Operations	IAOP Review
368	4.24.1	Hazardous material as defined in 49 C.F.R. 171.8 shall not be transported aboard NASA mission management flights.	Center Directors	IAOP Review

369	4.24.1	Cargo to be shipped shall be routed through the Center's transportation office before acceptance or, if en route, cargo normally only shall be accepted from a certified shipper or freight forwarding agency.	Center Directors	IAOP Review
370	4.25.1	During all critical flight operations, cockpit activities and conversation shall be limited to those involved with the direct operation of the aircraft.	Pilot in Command	IAOP Review
371	4.26.1	Before departure, the PIC shall brief the crew on all essential information concerning the flight including weather, restrictions, and the duties and responsibilities of each flightcrew member.	Pilot in Command	IAOP Review
372	4.27.1a	In those instances when, in the determination of the PIC, an extenuating circumstance requires loading or unloading passengers or cargo with an engine runningonly the engine on the opposite side of the aircraft from the loading door shall be operating and shall be operated at as low a power setting as practical.	Pilot in Command	IAOP Review
373	4.27.1b	In those instances when, in the determination of the PIC, an extenuating circumstance requires loading or unloading passengers or cargo with an engine running a flightcrew member shall be positioned on the ground to ensure that passengers do not approach close to an operating engine or windmilling propeller.	Pilot in Command	IAOP Review
374	4.27.2	The PIC shall ensure that all passengers have been briefed on the Disclosure for Persons Flying Aboard Federal Government Aircraft (see appendix C-2).	Pilot in Command	IAOP Review

375	4.27.3	Thorough flight planning is essential to the safe and efficient conduct of mission management flights. A flight plan shall be filed for each flight.	Pilot in Command	IAOP Review
376	4.27.3	Passenger flights shall be operated under instrument flight rules and, to the maximum extent possible, in controlled airspace; however, daylight flights of less than 100 nautical miles may be operated under visual flight rules if weather conditions permit.	Pilot in Command	IAOP Review
377	4.27.4	Considering weather forecasts and any known en route delays, the minimum amount of useable fuel required at takeoff shall be sufficient to do the following: a.) complete the flight to the destination airport; b.) fly from that airport to the alternate airport, if required; c.) fly after that for one additional hour using cruise fuel consumption at 10,000 feet mean sea level.	Pilot in Command	IAOP Review
378	4.27.5	Prior to takeoff, the PIC shall receive a thorough weather briefing concerning current weather and forecasts for the proposed route, destination, and alternate destination.	Pilot in Command	IAOP Review
379	4.27.5.1	Weather minimums for takeoff shall be not less than landing minimums unless a takeoff alternate is available.	Pilot in Command	IAOP Review
380	4.27.5.2a	The PIC of a mission management flight shall not file a flight plan requesting clearance into areas of reported or forecast severe icing conditions.	Pilot in Command	IAOP Review
381	4.27.5.2b	Airborne radar shall be operative for any flight into areas where current weather reports or forecasts indicate that thunderstorms may reasonably be expected and flight under daylight visual meteorological conditions is	Pilot in Command	IAOP Review

		not possible.		
382	4.27.5.2c	All flights shall be planned to circumnavigate areas of thunderstorm activity.	Pilot in Command	IAOP Review
383	4.27.5.3a	If the destination weather is reported and forecast to be less than a 2,000-foot ceiling or less than 3-mile visibility from 1 hour before until 1 hour after the estimated time of arrival (ETA), an alternate airport shall be listed on the flight plan.	Pilot in Command	IAOP Review
384	4.27.5.3b	Airport weather minimums shall meet or exceed the requirements of FAR part 91.	Pilot in Command	IAOP Review
385	4.27.6	When the pilot has less than 100 hours PIC experience in the type (make and model) aircraft being operated, the minimum descent altitude or the Decision Altitude and visibility landing minimums shall be increased by 200 feet and 1/2 mile (or the RVR equivalent) for all instrument approaches conducted by that pilot.	Pilot in Command	IAOP Review
386	4.27.6	In no case shall the landing minimums be less than a 400-foot ceiling and 1-mile visibility.	Pilot in Command	IAOP Review
387	4.27.6	Takeoffs shall not be made if the airfield is below these adjusted landing minimums.	Pilot in Command	IAOP Review
388	4.27.7	Prior to activating any aircraft system, aircraft maintenance forms shall be reviewed and evaluated.	Pilot in Command	IAOP Review
389	4.27.7	Prior to flight, the PIC shall accept the aircraft by signing the form. DoD aircraft forms, Naval Aviation Logistics Command Management Information System (NALCOMIS), or equivalent forms may be used as a substitute for specific NASA forms.	Pilot in Command	IAOP Review
390	4.27.8	A copy of the current weight and balance data shall be carried aboard each mission management flight.	Pilot in Command	IAOP Review

391	4.28.1	On departure, navigational aids shall be set up to aid in a possible expedited emergency return, as well as to aid in establishing the initial en route course.	Pilot in Command	IAOP Review
392	4.28.2	If installed and operative, the CVR and FDR shall be turned on during the entire flight.	Pilot in Command	IAOP Review
393	4.28.2	Should an incident occur, the CVR and FDR power shall be removed and appropriate circuit breakers pulled following completion of the after-shutdown checklist.	Pilot in Command	IAOP Review
394	4.28.3	EGPWS/TAWS shall be used on all flights.	Pilot in Command	IAOP Review
395	4.28.3	Immediate and appropriate action shall be taken in response to all valid EGPWS/TAWS warning calls.	Pilot in Command	IAOP Review
396	4.28.4	Landing lights shall be used during all takeoffs and landings and when operating near airports or in high-density traffic areas.	Pilot in Command	IAOP Review
397	4.28.6	Flight Maintenance Technicians shall remain at their duty station throughout the climb and descent.	Pilot in Command	IAOP Review
398	4.28.7	TCAS/TCAD resolution advisories shall be followed.	Pilot in Command	IAOP Review
399	4.29.1	In-flight delays and readily discernible abnormal conditions shall be explained to the passengers.	Pilot in Command	IAOP Review
400	4.29.1.1	The PIC shall require that all passengers and crewmembers have safety belts securely fastened for taxiing, takeoffs, landings, and before entering an area of in-flight turbulence.	Pilot in Command	IAOP Review
401	4.29.1.2	Passengers shall not be admitted to the flight deck during "sterile cockpit" phases of flight.	Pilot in Command	IAOP Review

402	4.29.2	The PIC shall notify ATC of the aircraft "minimum fuel" status at any time the fuel supply has reached a quantity where, upon reaching destination, little or no delay can be accepted. In no case may this quantity be less than that specified in table 4-6.	Pilot in Command	IAOP Review
403	4.29.2	If fuel remaining indicates a need for traffic priority to ensure a safe landing, the PIC shall formally declare an emergency due to low fuel and shall report fuel remaining in minutes.	Pilot in Command	IAOP Review
404	4.29.3	When an emergency or in-flight difficulty arises, the crew shall complete the checklists and report the nature and extent of the difficulty, intentions, and assistance required to the controlling ground agency.	Pilot in Command	IAOP Review
405	4.29.3	In the event of an engine failure or shutdown, the aircraft shall land at the nearest suitable airport at which a safe landing can be made.	Pilot in Command	IAOP Review
406	4.30.1	During instrument arrivals, all available navigational aids shall be used. When available, precision approach guidance (Instrument Landing System or Precision Approach Radar) will be used for all night arrivals except for specific events during training flights.	Pilot in Command	IAOP Review
407	4.30.2	Pilots operating aircraft shall land the aircraft only when the flight visibility is equal to or greater than the visibility prescribed in the standard instrument approach procedure being used.	Pilot in Command	IAOP Review
408	4.30.4	Before starting an approach, the pilot flying shall brief the crew on the procedures to be followed during the approach and landing and in the event of a missed approach.The briefing will include a review of the procedure to be flown, including key altitudes and	Pilot in Command	IAOP Review

		restrictions, as well as specific crew duties during the approach and landing.		
409	4.30.5a	During approach, the pilot shall set up to execute a stabilized approach to landing. The optimum stabilized approach is defined as a flight on the glide path (visual or electronic) at a steady rate of descent, on the "target" approach speed, in the landing configuration, in trim, and with the proper thrust setting.	Pilot in Command	IAOP Review
410	4.30.5b	During approach, a stabilized approach shall be established by 1,000 feet above airport elevation in instrument meteorological conditions (IMC) and by 500 feet above airport elevation in visual meteorological conditions (VMC).	Pilot in Command	IAOP Review
411	4.30.5c	During approach, the pilot flying the approach shall announce his/her progress and intentions periodically.	Pilot in Command	IAOP Review
412	4.30.5d	During approach, the pilot monitoring shall observe the approach and provide a continual cross-check of the navigational aids, instruments, air traffic control instructions, and approach procedures.	Pilot in Command	IAOP Review
413	4.30.5e	During approach, any deviations from the prescribed procedure shall immediately be brought to the attention of the pilot flying.	Pilot in Command	IAOP Review
414	4.30.5f	During approach, the pilot monitoring shall call out "1,000 feet above" and "100 feet above" all key altitudes, as well as "minimums" upon reaching the Missed Approach position.	Pilot in Command	IAOP Review
415	4.30.5g	During approach, when the runway is in sight, the pilot monitoring shall state, "runway in sight."	Pilot in Command	Check Flight

416	4.30.5h	During approach, if the runway is not in sight when the aircraft reaches the Missed Approach point, the pilot monitoring shall state, "go around."	Pilot in Command	Check Flight
417	4.30.6	To prevent excessive loss of altitude in the event of an autopilot failure, the pilot directing the aircraft shall maintain flight control contact throughout the final portion of an automatic coupler approach. Full manual control shall be assumed at or above published minimum altitude.	Pilot in Command	IAOP Review
418	4.31.1	On completion of the flight, the PIC shall ensure the flight plan is closed with the appropriate facility.	Pilot in Command	IAOP Review
419	4.31.2	The PIC shall take prudent measures to secure and protect the aircraft at en route stops.	Pilot in Command	IAOP Review
420	4.31.2	State Department Advisories and the DoD Foreign Clearance Guide shall be consulted for out-of-continental United States operations.	Pilot in Command	IAOP Review
421	4.31.3	The flightcrew shall enter in the aircraft flight log each mechanical irregularity discovered during the flight. All unusual events (e.g., overweight or hard landings, lightning or bird strike, static discharge, or flight through hail or severe turbulence) will be recorded in the aircraft log.	Pilot in Command	IAOP Review
422	4.32.1	Aircraft flight manual data shall be used to ensure adequate takeoff, climb, approach, and landing performance is available for the actual conditions encountered.	Pilot in Command	IAOP Review
423	4.32.2	Headquarters waiver shall be required for takeoffs from or landings on runways of lengths less than those specified in table 4-4.	Pilot in Command	IAOP Review

424	4.32.3	For normal operations, airfields shall be considered below minimums for takeoff and landing when winds, including gusts, are greater than those established in table 4-5.	Pilot in Command	IAOP Review
425	4.32.4	All flights shall be planned to have no less than the minimum fuel indicated in table 4-6 available at touchdown on the final landing.	Pilot in Command	IAOP Review
426	5.1.2	All UASs shall be operated to meet the requirements of this NPR, and appendix I defines the appropriate level of oversight for each category of UAS.	Center Director	IAOP Review
427	5.1.3	Any UAS operated on behalf of NASA that operates within the National Airspace shall be piloted by an individual who is either a NASA pilot or holds an FAA Pilot's License.	Center Director	IAOP Review
428	5.1.4	Center Directors shall establish procedures in accordance with appendices I and J to ensure that all UAS flights are properly approved and documented.	Center Director	IAOP Review
429	5.1.4	Center Directors also shall ensure that UAS flightcrews and operations receive direct oversight by the Center Flight Operations Office or through another Center with a Flight Operations Department.	Center Director	IAOP Review
430	5.2.1.3	A letter of agreement with local air facilities shall be completed to ensure that proper coordination of support requirements is understood and agreed to.	Center Director	IAOP Review
431	5.2.2	The UAS planner shall work via the Office of External Relations to gain diplomatic clearances prior to any UAS operations within their represented country.	Center Director	IAOP Review

432	5.3.5	Flight planning for routes that afford little or no time to avert the response to an erroneous data entry that could lead to a significant mishap (Class C or higher) shall have independent review both before loading in the mission computer and after upload on the UAS is complete.	Center Director	IAOP Review
433	5.3.6.2	Upon notification of an in-flight emergency, emergency procedures shall be performed by the UAS pilot in accordance with Center procedures, flight authorizations, and the UAS operations manual.	Center's Chief of Flight Operations	IAOP Review
434	5.4.1	A flight brief that includes the flightcrew, a program representative, and a maintenance representative shall be conducted prior to all flights. Briefs provide specific information in accordance with UAS SOPs. Briefs will include the following: a.) weather update; b.) program brief; c.) system update; d.) emergency divert airfields; e.) emergency procedures and terminology; f.) mission profile.	Center's Chief of Flight Operations	IAOP Review
435	5.4.2	Systems checks shall include an independent means to verify waypoints entered into a navigational system prior to takeoff.	Pilot in Command	IAOP Review
436	5.4.2.1	If a suitable runway is available, the UAS operator may perform a conventional rolling takeoff. The length of runway required depends on the UAS. If a suitable runway is not available, then an alternate launch method shall be used.	Pilot in Command	IAOP Review
437	5.4.3	The UAS recovery checklist shall be adhered to in accordance with the operations manual.	Pilot in Command	IAOP Review
438	5.5.1	UAS flightcrew members shall become qualified in accordance with written Center standards in accordance with appendix J.	Center Director	IAOP Review

439	5.5.1	Center Chiefs of Flight Operations, with the concurrence of the Center Director, shall designate UAS pilots for the specific type of UAS they operate.	Center Director	IAOP Review
440	5.5.1	The Chief of Flight Operations shall ensure that each UAS flightcrew possesses an adequate level of training and experience to perform the duties of the designated positions as laid out in appendix J.	Center's Chief of Flight Operations	IAOP Review
441	5.5.2.1e	Per appendix J, remote pilots shall meet the minimum qualifications for a NASA pilot based on this NPR and Center-established processes and procedures.	Center's Chief of Flight Operations	IAOP Review
442	5.5.2.1f	Fully qualified NASA pilots may be assigned as UAS pilots, but for UAS pilots to fly manned NASA aircraft, they shall meet NASA pilot qualification minimums.	Center Directors	IAOP Review
443	5.5.2.2	Initial UAS training shall be documented by each Center in accordance with appendix J with the approval of the Chief of Flight Operations.	Center's Chief of Flight Operations	IAOP Review
444	5.5.2.3	In the case of prototype, experimental, or research UAS aircraft for which no formal schools are available, the services of the designers and the manufacturer's best qualified personnel shall be utilized to brief and familiarize the UAS pilots with the aircraft, UAS aircraft systems, and ground control stations. In addition, existing UAS simulators and UAS aircraft of a similar nature will be used to train pilots prior to flying a UAS research vehicle.	Center's Chief of Flight Operations	IAOP Review
445	5.5.2.4	Training for all members of the UAS flightcrew shall include crew resource management training.	Center's Chief of Flight Operations	IAOP Review

446	5.5.3	NASA UAS flight time shall be kept separate from NASA manned aircraft flight time by type in NAMIS.	Center's Chief of Flight Operations	IAOP Review
447	5.5.3	A review of UAS pilot and crew qualifications shall be made prior to flight assignment to ensure that prerequisites for the intended mission are met.	Center's Chief of Flight Operations	IAOP Review
448	5.5.3	The Center's Chief of Flight Operations shall designate the crewmembers for UASs that are under the Center's purview.	Center Director	IAOP Review
449	5.6.2	The Airworthiness and Flight Safety Review Board shall participate in or, at their option, conduct reviews to establish the airworthiness and evaluate the safety of flight operations.	Center Director	IAOP Review
450	5.6.2	Other personnel who shall participate in the review include the Safety, Reliability, and Quality Assurance Office, the mission manager and/or Principal Investigator, the UAS operator, and Range Safety personnel.	Center Director	IAOP Review
451	5.6.2.1	The following topics shall be addressed by a NASA AFSRB to assess the risks associated with a UAS flight program: a.) general outline of major UASs; b.) communication links and frequency management plan; c.) flight control system and configuration control procedures; d.) backup systems and procedures; e.) flight terminations systems including ground abort.	Center Directors	IAOP Review
452	5.6.3	The program/project manager shall limit the assessed collective risk associated with aerospace vehicle operation and ensure that the probability of doing harm to a member of the general public is not greater than the criteria established by NPR 8715.5, Range Safety Program.	Center Directors	IAOP Review

453	6.1.3.2	This NPR establishes policy and procedures for the NASA Aircraft Operations SMS in accordance with ICAO, Federal, and industry standards. Compliance is mandatory and shall be monitored during biennial Inter-Center Aircraft Operations Panel (IAOP) functional reviews.	Center Directors	IAOP Review
454	6.1.3.2	The SMS shall establish the mechanisms necessary to deliver and monitor safety performance. SMS is integrated into the policies and procedures throughout this document that meets the requirements of an SMS.	Chief of Safety and Mission Assurance	IAOP Review
455	6.2.2	Center Directors shall ensure that the Center ASO is granted formal access to senior management when safety issues cannot be resolved at a lower level in the flight organization.	Center Directors	IAOP Review
456	6.2.5	The Headquarters Aviation Safety Manager within the Office of Safety and Mission Assurance shall be a qualified ASO.	Chief of Safety and Mission Assurance	IAOP Review
457	6.2.5	The ASM shall provide safety and mission assurance oversight for Agency aviation activities.	Chief of Safety and Mission Assurance	IAOP Review
458	6.2.5a	The ASM shall coordinate with AD regarding OSMA requirements affecting aviation safety or reporting.	Chief of Safety and Mission Assurance	IAOP Review
459	6.2.5b	The ASM shall identify aviation safety issues through mishap investigation and analysis.	Chief of Safety and Mission Assurance	IAOP Review
460	6.2.5c	The ASM shall participate in the annual NASA ASO conference.	Chief of Safety and Mission Assurance	IAOP Review
461	6.2.5d	The ASM shall monitor the implementation of the Agency's Aviation Safety Program.	Chief of Safety and Mission Assurance	IAOP Review
462	6.2.5e	The ASM shall attend selected program flight readiness and safety reviews.	Chief of Safety and Mission Assurance	IAOP Review

463	6.2.5f	The ASM shall serve as an advisor to the IAOP and participate in IAOP activities, including meetings, reviews, and subpanel activities.	Chief of Safety and Mission Assurance	IAOP Review
464	6.2.5g	The ASM shall conduct aviation safety staff assistance visits and reviews.	Chief of Safety and Mission Assurance	IAOP Review
465	6.2.5h	The ASM shall coordinate recommendations from mishap investigations that require corrective action from sources or agencies outside of NASA.	Chief of Safety and Mission Assurance	IAOP Review
466	6.2.5i	The ASM shall participate in selected aircraft flight operations.	Chief of Safety and Mission Assurance	IAOP Review
467	6.2.7	The ASO subpanel chair is responsible for briefing safety issues and concerns of the Centers to the IAOP panel, and shall schedule and conduct subpanel meetings and teleconferences.	IAOP Aviation Safety Officer Subpanel Chair	IAOP Review
468	6.2.8	The Center's Chief of Flight Operations, with the concurrence of the Center Director, shall appoint an ASO.	Center Directors	IAOP Review
469	6.2.9a	The ASO shall hold qualification as a NASA PIC in type.	Center Directors	IAOP Review
470	6.2.9b	The ASO, within 1 year of appointment, shall complete a 2-week course in aviation safety program management.	Center Directors	IAOP Review
471	6.2.9b	Within 2 years of appointment, the ASO shall have graduated from a recognized Military Aviation/Flight Safety Officer Course or an Academic Aviation Safety Certificate Program (of at least 6 weeks' duration).	Center Directors	IAOP Review
472	6.2.10.1	Each Center shall establish a continuing education program to ensure that each ASO maintains adequate knowledge to discharge the duties of the office.	Center Directors	IAOP Review

473	6.2.10.1	To maintain familiarity with the latest aviation safety principles as a NASA ASO, the ASO shall be actively engaged in the Center's aviation operations program and complete 40 hours of continuing education in ASO course elements within 24 calendar months.	Center Directors	IAOP Review
474	6.3.1	The Center Aviation Safety Program shall be documented in a single comprehensive manual.	Center Directors	IAOP Review
475	6.3.1.1	The working group is chaired by the ASO, shall meet at least semiannually, and reports to the Chief of Flight Operations.	Center Directors	IAOP Review
476	6.3.1.2	HQ AD, together with independent oversight from the Office of Safety and Mission Assurance, shall conduct an aviation safety review of each Center biennially utilizing the IAOP Review Program.	Aircraft Division	IAOP Review
477	6.3.1.2	Centers conducting flight operations shall perform an independent flight operations review during the alternate year when an IAOP review is not scheduled.	Center Directors	IAOP Review
478	6.3.1.2	This review may be conducted by the Center Safety Office or an external aviation inspection organization and shall provide an objective evaluation of selected aircraft operations, maintenance, crew procedures, and facilities to ensure safe and efficient operation.	Center Directors	IAOP Revew
479	6.3.1.3	The Center Aviation Safety Program shall establish a procedure for collecting hazards/anomalies/Close Calls data from personnel.	Center Directors	IAOP Review
480	6.3.1.3	This procedure shall document and direct hazards to the appropriate management level for investigation and resolution.	Center Directors	IAOP Review

481	6.3.1.3	Close Calls shall be documented, trended, and disseminated to internal personnel and other NASA flight organizations for educational and awareness purposes.	Center Directors	OSMA Review
482	6.3.1.3	Centers shall follow the Close Call reporting requirements contained in NPR 8621.1.	Center Directors	IAOP Review
483	6.3.1.4	The Chief of Flight Operations with the assistance of the ASO shall conduct a Government/industry-recognized cultural survey, assessment, or workshop within aircraft operations every 2 years or within 6 months of hiring a new Chief of Aircraft Operations.	Chief of Flight Operations	IAOP Review
484	6.3.1.5	ASOs shall conduct safety training for operations and maintenance personnel.	Aviation Safety Officers	IAOP Review
485	6.3.1.5	The ASO shall establish a process to ensure that topics covered are disseminated to those who could not attend.	Aviation Safety Officers	IAOP Review
486	6.3.1.6	Centers shall establish an Aviation Safety Award program.	Center Directors	IAOP Review
487	6.3.1.7	The ASO shall ensure that risk assessment and hazard analysis procedures are established. These procedures must address risks, hazards, and mitigation methods associated with aircraft modifications and research flights in accordance with chapter 2 of NPR 8715.3.	Aviation Safety Officers	IAOP Review
488	6.3.1.8	The ASO shall ensure that project and program safety plans are subject to a review process.	Aviation Safety Officers	IAOP Review
489	6.3.1.8	Once approved, the ASO shall ensure the plans are disseminated to all involved personnel.	Aviation Safety Officers	IAOP Review
490	6.3.1.9	The ASO shall ensure that aviation facilities are maintained and inspected in accordance with applicable OSHA and NASA safety standards.	Aviation Safety Officers	IAOP Review

491	6.3.1.10	The ASO shall provide safety oversight during the handling and stowage of cargo, including hazardous materials, aboard NASA aircraft.	Aviation Safety Officers	IAOP Review
492	6.3.1.11	ASOs shall ensure that aviation safety-related information is distributed throughout aircraft operations and maintenance.	Aviation Safety Officers	IAOP Review
493	6.3.1.11	Safety information that would be of interest Agency-wide shall be sent to the Office of Safety and Mission Assurance for distribution.	Aviation Safety Officers	IAOP Review
494	6.3.1.12	All NASA aircrew shall, at least once per calendar year, attend a crew resource management course of at least 4 hours in duration.	Center's Chief of Flight Operations	IAOP Review
495	6.4.1	Each Center shall publish and maintain an Aircraft/Airfield Pre-Mishap Plan in accordance with the procedures established in NPR 8621.1.	Center Directors	IAOP Review
496	6.4.1	The pre-mishap plan shall be tailored to local needs and capabilities and be developed and coordinated with all supporting and supported activities or agencies.	Center Directors	IAOP Review
497	6.4.1	The Aircraft/Airfield Pre-Mishap Plan shall be maintained for each NASA operational airfield, heliport, and aviation activity.	Center Directors	IAOP Review
498	6.4.1a	Each Center Aircraft/Airfield Pre-Mishap Plan shall ensure local fire/crash-rescue personnel are briefed annually on rescue and emergency procedures peculiar to the aircraft regularly operated at that facility and prior to operation of newly acquired aircraft.	Center Directors	IAOP Review
499	6.4.1b	Each Center Aircraft/Airfield Pre-Mishap Plan shall ensure that mock mishap drills are held and that the ASO evaluates the results to ensure optimal coordination with pre-mishap plans.	Center Directors	IAOP Review

500	6.4.1c	Each Center Aircraft/Airfield Pre-Mishap Plan shall address procedures for aircraft mishaps away from home field.	Center Directors	IAOP Review
501	6.4.1d	Each Center Aircraft/Airfield Pre-Mishap Plan shall establish procedures for notifying and working with the National Transportation Safety Board and the FAA for aircraft accidents reportable under Federal regulations.	Center's Chief of Flight Operations	IAOP Review
502	7.2.1	Pilots shall hold an FAA First Class medical certificate, military pilot flight physical, or NASA flight medical certification renewed annually or more frequently if specified by the Center Director or a competent medical authority.	Center's Chief of Flight Operations	IAOP Review
503	7.2.1.1	Flightcrew of high performance jet aircraft or ejection seat configured aircraft shall obtain a military pilot flight physical or NASA flight medical certification.	Center's Chief of Flight Operations	IAOP Review
504	7.2.1.2	Pilots 55 years of age and older shall be medically certified every 6 months.	Center's Chief of Flight Operations	IAOP Review
505	7.2.2	Flight Engineers shall hold either an FAA Second Class medical certificate, military flight physical, or NASA flight medical certification, which must be renewed annually or earlier if specified by a competent medical authority.	Center's Chief of Flight Operations	IAOP Review
506	7.2.3	Other primary aircrew shall hold either an FAA Third Class medical certificate, military flight physical, or NASA flight medical certification, which must be renewed annually or earlier if specified by a competent medical authority.	Center's Chief of Flight Operations	IAOP Review

507	7.2.4	Qualified non-crewmembers shall obtain medical clearances as required by Center procedures. At a minimum, a medical screening must be conducted by a NASA physician as appropriate for the mission.	Center's Chief of Flight Operations	IAOP Review
508	7.2.5	Center Directors shall establish procedures, in coordination with their personnel offices, to ensure that primary aircrews are assigned to duties not involving flying if they become medically disqualified.	Center Directors	IAOP Review
509	7.3.1	Copies of current medical certification shall be kept on file at the primary aircrew and qualified non-crewmembers' operating site.	Center's Chief of Flight Operations	IAOP Review
510	7.5.1	Flightcrews shall report Special Issuances (FAA Waivers) and FAA Statements of Demonstrated Ability to the Chief of Flight Operations for review by a NASA Aeromedical Physician.	Center's Chief of Flight Operations	IAOP Review
511	8.1	Center Aircraft Flight Operations organizations shall coordinate all aircraft acquisition and disposition actions with the cognizant Center Supply and Equipment Management Officer(s) in accordance with NPR 4200.1, NASA Equipment Management Procedural Requirements.	Center Directors	IAOP Review
512	8.1	In addition, transfer of aircraft between Federal agencies and disposal of aircraft, including exchange/sales by Federal agencies, shall be authorized by GSA.	Center Directors	GSA Review
513	8.2.1	Prior to acquiring aircraft for operational use, the Associate Administrator of the Mission Directorate or the Center Director shall submit an acquisition request to the HQ AD per appendix H, along with a business case analysis in support of the aircraft acquisition.	Center Directors	IAOP Review

514	8.2.1	Procurement of aircraft shall be conducted in accordance with established Federal Acquisition Regulations and guidelines, including OMB Circulars A-76 and A-126, and initiated only after approval from the Assistant Administrator for the Office of Strategic Infrastructure and after the following alternatives have been considered in the following order: a. Use of available NASA aircraft resources. b. Use of public aircraft owned by other Government agencies through loan or transfer. c. Charter or lease of civil aircraft.	Center Directors and Mission Directorates	IAOP Review
515	8.2.2	In completing appendix H, the program/project manager shall coordinate with the Center Environmental Management Office to determine whether the proposed aircraft acquisition requires preparation of an environmental assessment.	Center Directors	IAOP Review
516	8.2.4	Mission Directorates establish the requirements and funding level for each aircraft assigned to support their programs and shall approve the program/project managers' acquisition requests prior to submission to the HQ AD	Mission Directorates	Concurrent Clearance Process
517	8.2.5	AD shall enter all acquired aircraft into FAIRS.	Aircraft Division	IAOP Review
518	8.2.6	Centers shall record all acquired aircraft in the NASA Equipment Management System in accordance with NPR 4200.1.	Center Directors	IAOP Review
519	8.2.6	Centers shall register all aircraft, excluding parts and DoD-loaned aircraft, with the FAA.	Center Directors	IAOP Review

520	8.3.1	The program/project manager or Center Director shall notify the HQ AD prior to acquisition of an aircraft whose intended use is solely for "parts aircraft."	Center Directors	IAOP Review
521	8.3.1a	Centers shall remove the data plates from all aircraft acquired solely for parts purposes and forward the data plates to HQ AD for disposition.	Center Directors	IAOP Review
522	8.3.1b	Centers shall enter parts aircraft into each respective Center's property inventory records in accordance with NPR 4200.1.	Center Directors	IAOP Review
523	8.3.2	Aircraft materiel, such as spare parts, shall be acquired, managed, and controlled in compliance with NPR 4100.1 and 41 CFR 102-33, Management of Government Aircraft.	Center Directors	IAOP Review
524	8.3.3.1	For as long as FSCAP or Life Limited Parts are used or kept by NASA, the documentation that accompanies those parts shall be maintained and kept updated.	Center Directors	IAOP Review
525	8.3.3.2	When FSCAP and Life Limited Parts are disposed, the up-to-date documentation shall accompany the parts.	Center Directors	IAOP Review
526	8.3.3.3	The Criticality Code of a FSCAP shall be maintained and perpetuated on all property records and reports of excess.	Center Directors	IAOP Review
527	8.4.1	A NASA owned aircraft shall be disposed of when it is excess to the current and anticipated needs of the Agency.	Center Directors	
528	8.4.1.	Disposal of NASA-owned aircraft shall be in accordance with Federal Property Management Regulations and the applicable portions of NPD 4300.1, NASA Personal Property Disposal Policy, and NPR 4300.1, NASA Personal Property Disposal Procedural Requirements.	Center Directors	IAOP Review

529	8.4.1	Disposal of NASA aircraft identified as artifacts or heritage assets shall be in accordance with NPR 4310.1, Identification and Disposition of NASA Artifacts.	Center Directors	IAOP Review
530	8.4.1	Aircraft disposition shall be coordinated in advance with the HQ AD and approved by the Assistant Administrator for the Office of Strategic Infrastructure.	Center Directors	IAOP Review
531	8.4.1.1	External loan agreements shall be reviewed by the Center Chief Counsel, other Center officials as appropriate, and approved by the Center Supply and Equipment Management Officer (SEMO) in accordance with NPR 4200.1, Sections 3.3.2, 3.3.3, and 3.4	Center Directors	IAOP Review
532	8.4.1.1	Aircraft loaned externally by NASA for display, even when done as part of NASA Exhibits Program, shall be accompanied by a loan agreement signed by the Center SEMO.	Center Directors	IAOP Review
533	8.4.1.2	Requests accompanied by written justifications for deviation from the prohibition shall be coordinated through the NASA AD and the NASA Property Disposal Officer (PDO)	Center Directors	IAOP Review
534	8.4.1.2e	When an aircraft that has an FAA Certificate of Airworthiness is removed from the inventory, the Certificate shall be removed from the aircraft and forwarded to the HQ AD for disposition unless the aircraft is transferred to another Government agency that intends to operate it or it is sold through GSA to a civil operator.	Center Directors	IAOP Review
535	8.4.2	When an aircraft is removed from the inventory that is not capable of obtaining an FAA Certificate of Airworthiness or is deemed by the Center Flight Operations Office to be unsafe for civil use, the manufacturer's data plate shall be	Center Directors	IAOP Review

		removed and forwarded to the HQ AD for disposition.		
536	8.5.1	In accordance with Chapter 2 of NPR 4200.1, Centers shall conduct annual physical inventories of Center-owned aircraft, including display aircraft, parts aircraft, and aircraft in flyable or non-flyable storage, to determine the accuracy of the records and the NEMS control system.	Center Directors	IAOP Review
537	9.1.1	Results of the reviews shall be used to update NASA-wide or local requirements in order to enhance standardization and improve productivity.	Center Directors	IAOP Review
538	9.2.1	The HQ AD shall establish inter-Center review teams to review all aspects of flight operations at NASA Centers, including the implementation of Center procedures, either biennially or as determined by the HQ AD.	AD	IAOP Review
539	9.3.1.4	The entrance briefing given by the Center to the review team shall be comprehensive. Local operations and maintenance documents will be made available to the team, and the team members will familiarize themselves with the documents before performing field work.	IAOP Review Team Leader	IAOP Review
540	9.3.2	Instructions for reviewers shall ensure compliance with established standards, including FAA, DoD, manufacturer, industry, and association standards.	IAOP Review Team Leader	IAOP Review
541	9.3.3	The team leader shall hold daily team progress meetings to discuss discrepancies and recommendations.	IAOP Review Team Leader	IAOP Review
542	9.3.4	The team leader's exit briefing shall be in sufficient detail to inform Center management of the status of local Flight Operations activities with particular emphasis on significant findings and	IAOP Review Team Leader	IAOP Review

		recommendations requiring management attention.		
543	9.3.5	The review team shall document results in a brief report that focuses on significant findings and recommendations.	IAOP Review Team Leader	IAOP Review
544	9.3.5	The report shall be forwarded by the review team leader to the Assistant Administrator for the Office of Strategic Infrastructure with a copy to the Center Director.	IAOP Review Team Leader	IAOP Review
545	9.3.6	The Center Director shall respond to the Assistant Administrator for the Office of Strategic Infrastructure concerning corrective actions.	Center Directors	IAOP Review
546	11.3.1	Centers shall use the NASA Aircraft Cost and Performance worksheets in appendix G to report aircraft data to HQ AD within 45 days after the end of each quarter.	Center Directors	IAOP Review
547	11.3.1.1	Centers shall use the Aviation Inventory Report worksheet in appendix G to report the number and type of aircraft operated.	Center Directors	IAOP Review
548	11.3.1.2	The Centers shall use the Aviation Performance Report worksheet in appendix G to report aircraft operational data, unless an Agency-wide aircraft operations data reporting system is utilized.	Center Directors	IAOP Review
549	11.3.1.3	The Centers shall use the Aviation Safety Report worksheet in appendix G to report aircraft operational safety metrics, unless an Agency-wide aviation safety reporting system is utilized.	Center Directors	IAOP Review
550	11.3.1.4	The Centers shall use the Aviation Financial Report worksheet in appendix G to report aircraft costs, including contracted CAS.	Center Directors	IAOP Review
551	11.3.1.4a	Center CFOs shall implement actions to correct any financial errors uncovered in the Business Warehouse.	Center Chief Financial Officer	IAOP Review

552	12.2.1	To be eligible to be assigned to flight status, aircrew members shall meet all applicable requirements of chapters 3 and 4, any additional Center requirements, and will be assigned as either a: GS-2181, Aircraft Operations Series, OR b. GS-0861, Aerospace Engineering Series, OR c. Meet the applicable series and grade requirements of the OPM qualification standard for a GS-2181, Aircraft Operations Series in addition to the requirements laid out in chapters 3 and 4 of this NPR. Any waivers within this OPM qualification standard shall be approved only by the Assistant Administrator for the Office of Strategic Infrastructure.	Center Directors	IAOP Review
553	12.2.3	Each Center Director and Chief of Flight Operations, in close coordination with the Center Human Resources Office, shall establish a process to designate pilots and aircrew.	Center Directors	IAOP Review
554	12.2.3	To qualify for assignment as a NASA pilot of manned aircraft, only manned aircraft time shall apply.	Center Directors	IAOP Review
555	12.2.4	Each Center's Chief of Flight Operations shall establish procedures for assignment of aircrew to flight status and document those procedures in the Center Aviation Operations Manual.	Center's Chief of Flight Operations	IAOP Review
556	12.2.4	Fully qualified NASA pilots may be assigned as UAS pilots, but for UAS pilots to fly manned NASA aircraft, they shall meet NASA pilot qualification minimums.	Center's Chief of Flight Operations	IAOP Review
557	12.3.1	Each Center's Chief of Flight Operations shall establish procedures for temporary removal of aircrew personnel from flight status for situations other than medical disqualification.	Center's Chief of Flight Operations	IAOP Review

558	12.3.1	The Center Director, in accordance with Human Resources procedures, shall review and approve any non-medical-related proposal for removal from flight status in excess of 30 days.	Center Directors	IAOP Review
559	12.3.4	If the reason for removing the individual from flight status is an event that is properly classifiable as a Close Call pursuant to NPR 8621.1, the process for investigation described therein shall be followed.	Center Directors	IAOP Review
560	12.3.5.2	If a Flight Performance Board is convened, a flight status recommendation shall be delivered to the Center Director.	Center's Chief of Flight Operations	IAOP Review
561	13.1.1	A Center shall not operate an airfield (or helicopter landing area) unless the Center adopts and complies with an Airfield Operations Manual in accordance with section 13.2 of this NPR.	Center Directors	IAOP Review
562	13.1.2	Each Center operating an airfield shall ensure that the FAA Regional Airports Division Manager is provided a complete copy of the Center's most current Airfield Operations Manual.	Center Directors	IAOP Review
563	13.1.3	Centers providing access to their airfield to the general public for aircraft operations conducted under civil regulations shall identify all deviations and non-compliance from 14 C.F.R. 139 and provide this information to the Office of Strategic Infrastructure for approval.	Center Directors	IAOP Review
564	13.1.4a	Each Center shall develop and maintain an airfield emergency plan designed to minimize the possibility and extent of personal injury and property damage on the airfield in an emergency.	Center Directors	IAOP Review

565	13.1.4b	Each Center shall coordinate the plan with law enforcement agencies, rescue and firefighting agencies, medical personnel and organizations, the principal tenants at the airfield, and all other persons who have responsibilities under the plan.	Center Directors	IAOP Review
566	13.1.4c	At least once every 12 consecutive calendar months, the plan shall be reviewed with all the parties with whom the plan is coordinated, as specified in this NPR, to ensure that all parties know their responsibilities and to ensure that all information in the plan is current.	Center Directors	IAOP Review
567s	13.1.4d	Each Center shall hold a full-scale airfield emergency plan exercise at least once every 24 consecutive calendar months.	Center Directors	IAOP Review
568	13.1.5	Centers shall conduct training needed to meet the following requirements: a.) providing sufficient and qualified personnel to comply with the requirements of this NPR; b.) equipping personnel with sufficient resources to comply with the requirements of this NPR; c.) training all personnel who access movement areas and safety areas and perform duties in compliance with the requirements of the Airfield Operations Manual and the requirements of this NPR.	Center Directors	IAOP Review
569	13.1.6	All NASA Centers operating airfields or aircraft ramp areas shall conduct a Pavement Condition Index survey at least once every 5 years.	Center Directors	IAOP Review
570	13.1.7	Airfield condition reporting shall be conducted in a manner authorized by the Center Director and meet the following requirements: a.) provide for the collection and dissemination of airfield condition information to aircraft operators including alerts on bird and other	Center Directors	IAOP Review

		wildlife activity; b.) use the Notices to Airmen (NOTAM) system, as appropriate, and other systems and procedures authorized by the FAA; c) provide information on the following airfield conditions that may affect the safe operations of aircraft: (1) construction or maintenance activity on movement areas, safety areas, or loading ramps and parking areas; (2) surface irregularities on movement areas, safety areas, or loading ramps and parking areas; (3) snow, ice, slush, or water on the movement area or loading ramps and parking areas; (4) snow piled or drifted on or near movement areas; (5) objects on the movement area or safety areas; (6) malfunction of any lighting system, holding position signs, or Instrument Landing System (ILS) critical area signs; (7) unresolved wildlife hazards; (8) Non-availability of any rescue and firefighting capability required; (9) Any other condition specified in the Airfield Certification Manual or that may otherwise adversely affect the safe operation of aircraft; (10) procedures for identifying, marking, and lighting construction and other unserviceable areas; (11) any other item that the Center Director finds is necessary to ensure safety in airfield operations.		
571	13.2.1	Each Center shall maintain an Airfield Operations Manual that includes descriptions of operating procedures, facilities and equipment, responsibility assignments, and any other information needed by personnel concerned with operating the airfield.	Center Directors	IAOP Review

572	13.2.2	Each Center shall include in the Airfield Operations Manual the following elements: a.) Lines of succession of airfield operational responsibility; b.) copies of current waivers, variances, or deviations issued to the airfield; c.) any limitations imposed by the Administrator; d.) a grid map or other means of identifying locations and terrain features on and around the airfield that are significant to emergency operations; e.) the location of each obstruction within the airfield's area of authority required to be lighted or marked; f.) a description of all movement areas available for civil and public aircraft operators and the airfield's safety areas, and all roads that serve them; g.) procedures for avoidance of interruption or failure during construction work of utilities that serve facilities or NAVAIDS that support aircraft operations; h.) a description of airfield personnel training detailed in section 13.1.5; i.) procedures for maintaining paved areas; j.) procedures for maintaining unpaved areas; k.) procedures for maintaining safety areas; l.) a plan showing the runway and taxiway identification system, including the location and inscription of signs, runway markings, and holding position markings; m.) a description of marking, signs, and lighting systems, and procedures for maintaining them; n.) a snow and ice control plan. Prompt notification will be given to all aircraft operators using the airfield when any portion of the movement area is less than satisfactorily cleared for safe operation of their aircraft; o.) a description of the facilities, equipment, personnel, and procedures for meeting the aircraft rescue and firefighting	Center Directors	IAOP Review

		requirements detailed in section 13.3; p.) procedures for protecting persons and property during storing, dispensing, and handling fuel or other hazardous substances and materials; q.) a description of traffic and wind direction indicators and procedures for maintaining them; r.) the Pre-Mishap Plan/Aircraft Incident Response Plan as specified in section 13.1.4; s.) procedures for conducting a biennial self-inspection program; t.) procedures for controlling pedestrians and ground vehicles in movement areas and safety areas; u.) procedures for obstruction removal, marking, or lighting; v.) procedures for protection of NAVAIDS; w.) a description of public protection; x.)procedures for wildlife hazard management as specified in section 13.4; y.) airfield condition reporting procedures as specified in section 13.1.6.		
573	13.3.1.1	Each Center shall provide on the airfield, during aircraft operations at the airfield, at least the rescue and firefighting capability specified for the level of operations.	Airfield Manager	IAOP Review
574	13.3.1.2	In the event that fire protection is temporarily not available due to lack of personnel, equipment, or other emergencies, the Center shall establish procedures to restrict the use of the airfield and notify aircraft operators of the temporary suspension of airfield operations.	Center Director	IAOP Review
575	13.3.1.3	All rescue and firefighting personnel shall participate in at least one live-fire drill prior to initial performance of rescue and firefighting duties and every 12 consecutive calendar months thereafter.	Airfield Manager	IAOP Review

576	13.4.1	Each Center shall take immediate action to eliminate wildlife hazards whenever they are detected.	Airfield Manager	IAOP Review
577	13.4.2	Each Center shall ensure that a wildlife hazard assessment is conducted by a wildlife damage management biologist who has professional training and/or experience in wildlife hazard management at airfields or an individual working under direct supervision of such an individual.	Airfield Manager	IAOP Review
578	13.4.3	Each Center shall conduct a training program by a qualified wildlife damage management biologist to provide airfield personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by this chapter.	Airfield Manager	IAOP Review
579	13.4.4	Each Center shall track and report all bird strikes and other wildlife strikes either in the Incident Reporting Information System or the NASA Aircraft Anomaly Reporting System in accordance with NPR 8621.1.	Airfield Manager	IAOP Review
580	13.4.5	Each Center shall conduct a periodic review of the bird hazard using a team similar to the U.S. Air Force Bird/Wildlife Aircraft Strike Hazard team.	Airfield Manager	IAOP Review
581	13.4.6	Each Center shall develop a wildlife hazard management plan using the wildlife hazard assessment as a basis.	Airfield Manager	IAOP Review
582	13.5.1	Unless otherwise authorized by the Center Director or the FAA (in the case of civil aircraft operations), whenever the requirements of this NPR cannot be met to the extent that uncorrected, unsafe conditions exist on the airfield, the Center shall limit aircraft operations to those portions of the airfield not rendered unsafe by those	Center Directors	IAOP Review

		conditions.		
583	13.6.1	Each Center that deviates from a requirement under this section shall, within 14 days after the emergency, notify HQ AD of the nature, extent, and duration of the deviation.	Center Directors	IAOP Review

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